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THE ASSOCIATION OF PYLEPHLEBITIS AND APPENDICITIS*

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THE purpose of this study is to investigate the events leading to the development of pylephlebitis from appendicitis and to present a clinical study of twenty-seven such cases. Recent cases of acute appendicitis in which there were severe chills led us to make this analysis. The sources of our information are as follows: (1) The clinical and pathological records on twenty-seven cases of pylephlebitis and liver abscess following appendicitis. These occurred in 8,969 cases of appendicitis treated in the Massachusetts General Hospital from 1900 to 1933. (2) The clinical records of the last 1,791 cases of acute appendicitis and twenty-four cases of appendicitis having chills.

Pylephlebitis, as it is generally considered, is an inflammatory or purulent process involving the portal system of veins and may arise from any infection drained by this system. Our work has been limited to a study of the condition when the appendix is the source. Phlebitic involvement of the veins of the portal radicles may initiate a liver abscess and then subside so that at operation or at autopsy the pathway of the infection cannot be traced. Liver abscess may also develop after appendicitis through the lymphatic system or by direct extension as described by Munro[27], Braithwaite[5], and Koerte[20].

DEVELOPMENT OF PYLEPHLEBITIS FROM APPENDICITIS

(1) Individuals who develop pylephlebitis following appendicitis frequently have chills during the early stages of the attack. This was true in forty per cent of our cases. This fact has been noted by many observers; Gerster[16], Eliason[12], Melchior[24], Colp[11], and others. According to the records, thirty-eight out of 1,791 recent cases of acute appendicitis treated in the Massachusetts General Hospital had chills. In other words about 2.1 per cent of the general run of our patients with acute appendicitis have chills. Kelly[19] in his book on appendicitis published in 1905 gives the incidence of chills as fifteen per cent and Colp[12] (1927) found it to be 6.8 per cent in 2,341 cases studied at the Mt. Sinai Hospital. (Table I.)

TABLE I

CASES OF APPENDICITIS WITH CHILLS DURING FIRST FEW DAYS OF THE DISEASE

Uncomplicated	
Kelly—1904	15%
Colp—1926	6.8%
Our Series—1934	2.1%
Developing Pylephlebitis	
Our Series (27 cases)	40%

This suggests that the ratio of chills to appendicitis may be decreasing as earlier diagnosis and operation will tend to lower the incidence.

(2) Cases of appendicitis which develop pylephlebitis are usually neglected cases or those in which the appendix is not removed early. Gerster[16], Colp[11], Eliason[13] and others have made this observation. In our series of twenty-seven cases of appendicitis which later developed pylephlebitis, eight cases or 29.6 per cent had no operation on the appendix itself. This may be explained by the fact that the early symptoms and signs of appendicitis were overshadowed by the more serious manifestations of pylephlebitis that were developing by the time the patient was admitted to the hospital. In some cases, the history of the onset would seem to obscure the diagnosis. Others were obviously so ill that even if the original focus was suspected it may have been felt useless to remove it. Certainly, in some instances the diagnosis of appendicitis was not made until autopsy or late operation revealed the true state of affairs. Of those operated upon for appendicitis, the average time after the onset of symptoms of appendicitis before operation was performed was 7.7 days; the shortest time, two days; and the longest time, fourteen days. (Table II.)

(3) Cases of appendicitis which develop pylephlebitis usually have a gangrenous or badly inflamed appendix at operation. Sixteen of the

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nineteen cases in our series (84 per cent) which were operated upon had an appendix described as gangrenous or with abscess. Two cases (11 per cent) were acute and one was chronic. (Table III.)

TABLE II

DURATION OF SYMPTOMS OF APPENDICITIS BEFORE APPENDECTOMY IN CASES OF PYLEPHLEBITIS

Days	Number of Cases
1	0
2	1
3	5
4 to 7	5
8 to 14	6

TABLE III

SYMPTOMS AND SIGNS IN 27 CASES OF PYLEPHLEBITIS

	Present	Absent
Precipitous Chart	27	0
Chills	25	2
Tender, Painful Liver	20	7
Nausea and Vomiting	14	13
Enlarged Liver	12	15
Jaundice	12	15
Limited Movement of Diaphragm by X-ray	11	1

(4) At operation obvious thrombosis of the vein leading from the appendix has been described but once in our series of nineteen operative cases of appendicitis which developed pylephlebitis. It is probable that a thrombosis could have been detected in many of the other cases, but was not mentioned in the surgeon's notes. Furthermore, in the entire series of 8,969 cases of acute appendicitis, thrombosis of the veins leading from the appendix was mentioned but twice.

(5) Histological studies after the appendix has been removed have not enabled our pathological department to predict a single case of developing pylephlebitis. Beginning thrombosis in the veins of the appendix and its mesentery is the condition which we would expect to find in a developing pylephlebitis. The method by which thrombosis takes place has been explained in various ways by Virchow[39], Ochsner[31] and Koester[21], Gerster[16] and Thalhimer[38]. The latter felt that all cases of appendicitis should be examined for thrombosis in the veins of the mesentery so that where it occurred these veins could be excised or ligated. Sonnenburg[36] states that thrombosis occurs in the appendiceal veins in all cases of acute appendicitis. It is common surgical knowledge that in many cases of gangrenous appendicitis there is little or no bleeding when the mesentery of the appendix is cut and therefore the vessels must be occluded. That this obstruction of the vessels represents a true thrombosis is an academic point but an important one if we predict an incipient pylephlebitis on this basis, as suggested by Thalhimer[38].

In order to shed some light on this subject, we examined the sections on 100 consecutive cases of acute appendicitis, many of which were gangrenous, with the idea in mind of determining the number which showed thrombosis of the mesenteric veins. We based the histological evidence of thrombosis on the usual criterion of the presence of fibrin, red cells, and platelets. Somewhat to our surprise, the results were as follows:

(a) No case showed changes suggestive of thrombosis.

(b) Ten per cent showed at least one mesenteric vein to be filled with polymorphonuclear leukocytes.

(c) Thirty per cent showed polymorphonuclear leukocytes invading the walls of the veins, the lumen remaining comparatively free.

(d) Sixty per cent showed no leukocytic involvement of the mesenteric veins.

We then examined the sections on twenty-three cases giving a history of chills, (Plates I and II) and found the results almost identical

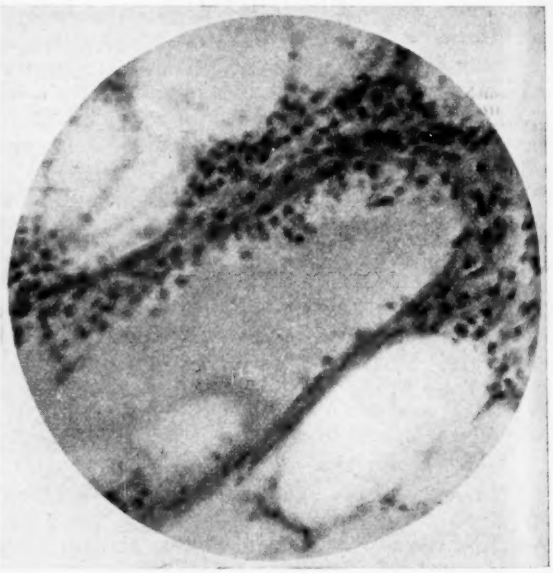


PLATE I. Showing polymorphonuclear infiltration in the wall of a vein in the mesentery of the appendix in a case of acute appendicitis with chills. Cases without chills and our case of appendicitis which developed pylephlebitis had similar pathology.

with the cases picked at random. This was followed by the examination of the sections on one case (the only one available) of acute appendicitis which later developed pylephlebitis and it was found that the mesenteric veins were full of polymorphonuclear leukocytes but showed no evidence of thrombosis.

This study suggests that the presence of histological evidence of thrombosis of the mesenteric veins of surgical specimens is not of com-

mon occurrence but that evidence of plugging of the veins with septic material occurs in ten per cent of the general run of cases with acute appendicitis. We furthermore can find no way of determining a developing pylephlebitis from appendicitis by a histological study of the surgical specimen. We are aware of the

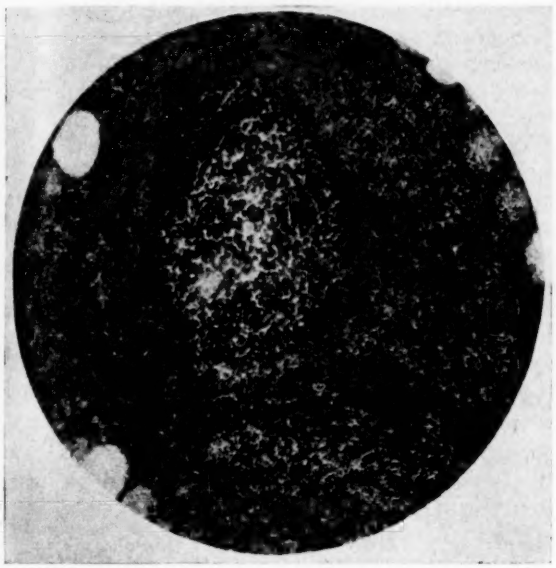


PLATE II. Showing polymorphonuclear infiltration within the lumen of a vein in the mesentery of the appendix in a case of acute appendicitis with chills. Cases without chills and our case of appendicitis which developed pylephlebitis had similar pathology. Elastic tissue stain differentiated this vein from a lymphatic.

fact that the pathologist must make his deductions from the material when it comes to him and that the findings may be quite different at other stages of the disease.

(6) Lewis and Rosenow[22] felt that they had isolated a specific strain of bacteria in cases of primary thrombophlebitis of the portal veins which could be transferred to rabbits and in these produce similar lesions. However, the possibility that pylephlebitis is caused by a specific organism is lessened by the fact that different types of organisms are found associated with it.

TABLE IV

WHITE BLOOD COUNT IN CASES OF PYLEPHLEBITIS

No. of Cases	White Blood Count
6	8,000 - 18,000
6	18,000 - 28,000
6	28,000 - 38,000
3	Unknown

In summary we would say that cases of appendicitis which are likely to develop pylephlebitis are those in which there is a history of chills, in which operation is omitted or delayed, in which a gangrenous or badly inflamed appendix is found, and in which there is clinical evidence of thrombosis of the appendiceal veins.

Incidence of Pylephlebitis Following Appendicitis. In the 8,969 cases of acute appendicitis treated at the Massachusetts General Hospital in the years 1900-1933 there have been twenty-seven cases of pylephlebitis. This gives an incidence in our series of .3 per cent or one case of pylephlebitis in every three hundred cases of acute appendicitis. The average incidence in published clinical reports is .45 per cent. (Table V.)

TABLE V

A COMPILATION OF THE INCIDENCE OF PYLEPHLEBITIS FOLLOWING ACUTE APPENDICITIS AS GIVEN BY DIFFERENT INVESTIGATORS

	Cases	Pylephlebitis	Per Cent	Average Per Cent
From Autopsy				
E. Armstrong[1]	63	5	7.8	6.0
R. Fitz[15]	257	11	4.2	
From Clinical Findings				
A. Gerster[16]	1189	9	.75	.45
Petrén[23]	2779	15	.54	
Stillman[27]	545	2	.14	
Brutt[7]	2500	15	.61	
A. Moschcowitz[28]	1532	7	.45	
Clairmont and Meyer[10]	1000	8.2	.42	
E. Eliason[13]	2237	3	.13	
R. Colp[21]	2841	9	.25	
A. Otschkin[32]	1692	15	.88	
Massachusetts General Hospital Series	8969	27	.30	

Sex. In our series there were twenty-one males and six females. This is in accord with the cases reported in the literature and is probably the result of the preponderance of cases of acute appendicitis in the male.

Diagnosis. The diagnosis of the typical case of pylephlebitis is not difficult. Bryant[9] summarizes the clinical aspects as follows: "Pyrexia, rigors, sweating, rapid pulse, abdominal pain, and tenderness in the right hypochondriac or the epigastric region together with uniform enlargement of the liver and tenderness of that organ, especially if associated with or following any ulcerative lesion of the alimentary tract below the esophagus, should suggest the possibility of suppurative pylephlebitis."

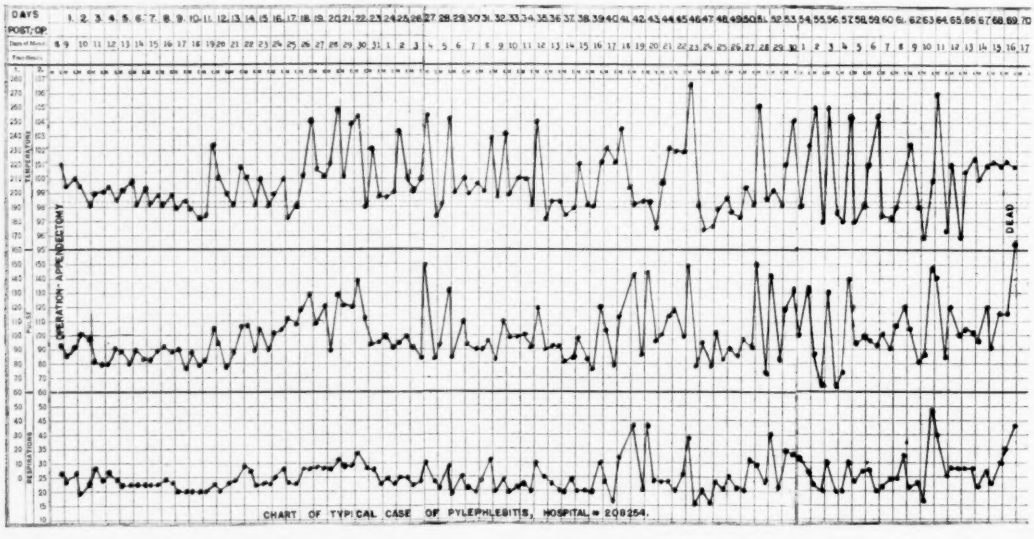
From our own studies we believe that in order to make a diagnosis of pylephlebitis one must have: (1) A very ill patient, who is running an elevated temperature, with a marked leukocytosis, and is otherwise obviously septic. (2) Nearly always a history of chills in the past or present. (3) A history of antecedent infection in the abdomen. The liver is frequent-

ly enlarged and tender. Jaundice is present in about half of the cases. There may be ascites with some dilatation of the veins over the abdomen. The original disease has been present several days. X-ray examination will aid in differentiating a sub-diaphragmatic abscess. The biliary tract, heart, lungs, urinary tract, intestines, etc., must be excluded by thorough investigation. The early stage of pylephlebitis is associated with the disease from which it springs. If chills are present during a developing appendicitis, we suspect it may occur. If they continue after it has been removed and the patient has more reaction than the local peritonitis would warrant and if there is slight tenderness over the liver and a mild jaundice, we would strongly consider an incipient stage of pylephlebitis. We cannot make a positive diagnosis, however, until the full blown picture has developed. The diagnosis was not definitely made in nine of the twenty-seven cases until after operation or autopsy. Some of the diseases with which it was confused were gall bladder disease, tuberculous and caseous peritonitis, empyema, subdiaphragmatic abscess, acute yellow atrophy, pancreatitis, pus in the lesser peritoneal cavity, biliary cirrhosis, coronary thrombosis, and bronchopneumonia with pyelitis.

Signs and Symptoms. The average time of onset of symptoms of pylephlebitis after the beginning of the story of appendicitis was 13.3 days (three cases not included). The average time of the development of symptoms and signs of pylephlebitis after an operation for appendicitis was 6.7 days (estimated from the 19 cases operated upon). At the onset of the disease, the condition of the patient was good but naturally became debilitated with the progress of the disease. A high temperature of 103° or more with daily precipitous swings, accompanied by an elevated pulse was present in all our cases (see sample chart). Chills were recorded in twenty-five of the twenty-seven cases. The white blood count was almost always elevated ranging between 9,000 and 40,000. (Table IV.) Three-fourths of the cases had a leukocytosis above 18,000. Two-thirds of the cases had had pain in the epigastrium or right upper quadrant. Only twelve of the twenty-seven cases were recorded as showing jaundice clinically or by blood test. Eleven of the patients developed nausea and vomiting. Only five of the cases were mentally sluggish or irrational. The liver was enlarged or tender in twelve. There was dilatation of the abdominal veins and ascites in six. The urine occasionally showed bile, albumin, or blood cells but nothing else of significance. X-rays were taken in twelve of our cases. In eleven a high diaphragm or limitation of its movement was found. One showed fluid levels in the liver. Blood cultures were taken in eight cases and in seven they were negative; one showed staphylococcus aureus. Cultures taken from the liver abscesses revealed staphylococci in three cases and bacilli in three others.

Treatment. (a) Needless to say, preventive measures are more valuable than any form of treatment after the process has become well established. This means early diagnosis and operation.

(b) If, however, a neglected case of appendicitis with a history of chill, a gangrenous appendix and clinical evidence at operation of thrombosis of the mesenteric veins presents itself, it may be possible to do something more than simply remove the appendix in order to prevent a developing pylephlebitis. If, in such a case, exploration of the ileocolic vein can be accomplished without too great a risk of spreading the peritonitis, we advocate its exposure and ligation, as advocated by Wilms[40] and Braun[6]. This procedure was not attempted in any of our twenty-seven cases of appendicitis which developed pylephlebitis. It has been done only twice in all our cases of appendicitis,



neither of which developed pylephlebitis. Certainly, however, ligation of the ileocolic vein is justifiable in one case in three hundred according to our statistics as any risk can be assumed if the early diagnosis of pylephlebitis can be made. The difficulty, of course, lies in the proper selection of such a case.

(c) There is a stage of the disease (one in our series) where there is an obvious thrombosis with a hard, thickened mass following along the course of the veins leading from the inflamed appendix, where the dangers of spreading peritonitis are unusual, in which ligation above the thrombosis may possibly be of help in arresting the progress of a true pylephlebitic process. In our case, no ligation was attempted and the patient eventually died of pylephlebitis, as was predicted by the surgeon at the time of the appendectomy.

(d) The procedure suggested by Braun[6] and carried out by Melchior[24, 25] of doing a secondary operation as soon as the symptoms of pylephlebitis develop and tying off the ileocolic vein is an intriguing one, but we have had no experience with it.

(e) After a liver abscess has formed, exploration and drainage should be performed when possible in two stages, either through the chest wall with attachment of the pleura to the diaphragm or by laparotomy with the attachment of the peritoneum overlying the liver to the parietal peritoneum. A successful case is reported by Halstead[17] in which this last method was used.

(f) Abdominal exploration may be indicated where the diagnosis is uncertain. If there are multiple abscesses which cannot be drained and the patient is jaundiced, a cholecystostomy, as suggested by Lilenthal[23], may be justified. There are two such cases in our series, both unsuccessful. Reports on portal ligation, Colp[11], Neuhof[29], and Farmer[14] have not been hopeful.

(g) Supportive treatment with frequent small blood transfusions may be all that can be done. The value of intravenous dyes is questionable.

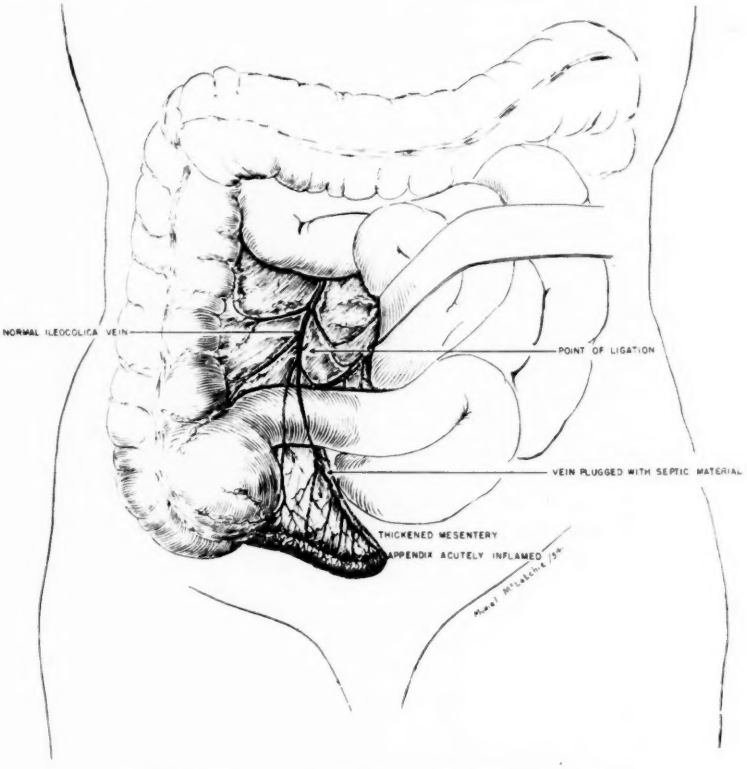


PLATE III. Braun's modification of the Wilms operation.

In our series, ten cases were explored; three through an abdominal incision with single stage drainage; two through an abdominal incision without drainage; two through a transverse subcostal incision; three through a costal one-stage operation and one case (the only successful one) through a two-stage rib resection with drainage of a large liver abscess.

Duration and Prognosis. The average period of illness caused by pylephlebitis in our series was 33.8 days. The shortest period of illness was seven days, and the longest, ninety-one days. Our known mortality was ninety-two per cent. Two cases out of the twenty-seven left the hospital alive. Only one is known to be alive and well three years later. That there should be a wide variation in the reports on mortality statistics in this disease, is to be expected. Some authors have, doubtless, considered only those

cases confirmed at operation or autopsy, while others have included many cases diagnosed as pylephlebitis from the clinical signs and symptoms. Also, most of the reports have included cases with the source of infection from all causes including the appendix. We have occasionally seen mild jaundice, unexplained chills, right upper quadrant tenderness or a picket fence chart in postoperative appendicitis cases that have rapidly recovered, so that the diagnosis of pylephlebitis although suspected could not be made. Such cases have not been included in our series. Brutt[7] reported a ninety-five per cent mortality. Moschcowitz[28] found a mortality rate of eighty-five per cent. Eliason[13] reported the combined series in the literature at 54.5 per cent. Recently, Otschkin[32] reported a mortality of eighty per cent. Petrén[33] reported, from the literature, twenty cases of single liver abscess of appendix origin with spontaneous recovery. Hellström[18] reported several pretty definite cases of multiple liver abscess, some of them proved at operation, which got well spontaneously without drainage. Barlow[3] reported an apparently fulminating case of pylephlebitis which recovered with only intravenous injections. The cases of Barnes[2], Bruggeman[8], Halstead[17], Lilienthal[23], Schiltz[35], etc., testify to the possibility of recovery after severe forms of the disease.

SUMMARY

1. Chills in appendicitis cases operated upon early (within thirty-six hours of onset) do not necessarily signify the development of pylephlebitis. Two and one tenth per cent of all our cases of acute appendicitis had chills.

2. Acute appendicitis of several days' duration associated with chills is likely to be followed by pylephlebitis. This occurred in forty per cent of such patients in our series.

3. The incidence of pylephlebitis following appendicitis in our hospital was .3 of one per cent.

4. Approximately one patient in six having chills during the attack of appendicitis developed pylephlebitis. When pylephlebitis occurs it is usually in neglected cases or in those in which the appendix is not removed early. The average time after the onset of symptoms of appendicitis before operation was performed was 7.7 days.

6. The average time in our series after the onset of symptoms of appendicitis before pylephlebitis developed to a point where the diagnosis could be made, was 13.3 days.

7. Histological study of the appendix mesentery is of little value in determining the development of pylephlebitis. The clinical evidence and the gross appearance of the local lesion at the time of operation are often characteristic.

8. Ligation of the ileocolic vein is recommended in carefully selected cases.

Summary of a Typical Clinical History

A twenty-six year old man entered the Hospital on July 27, 1932 with the complaint of abdominal pain of three days' duration.

P. I. Three days ago patient awakened at 6 A.M. with severe abdominal cramps all over his abdomen. No vomiting or nausea. He took a dose of soda and had a normal bowel movement which gave him temporary relief. In spite of the pain he played a round of golf that day and about noon the pain became more severe and localized below the umbilicus. He took a dose of castor oil that night and at 4 A.M. was awakened with a severe shaking chill which lasted twenty minutes, following which he was feverish, weak, and vomited several times. The next morning, the day before entry, he had a third chill. He was up and around all day, felt much better and drove to Boston from Albany, New York. The abdominal pain returned, became severe, and he was admitted to the Hospital.

P. E. T.—101°; P.—96; R.—20. No jaundice. Abdomen relaxed, no masses, definite tenderness in the lower right quadrant deep into the pelvis. Definite tenderness in the right vault by rectum.

Lab. W. B. C.—13,000, 76% polys. Urine negative. Icteric Index 10.

Course. The patient continued to have fever, and jaundice appeared gradually. The abdominal pain was still present and there was more tenderness on the right. On July 31, 1932 W. B. C. reached 18,900 and patient believed to have ? appendiceal abscess. An exploratory laparotomy and appendectomy with drainage were done. Patient continued to have fever and on August 7 had a severe chill with pain in both upper quadrants. W. B. C. 26,000, jaundice increasing, blood cultures negative. X-ray No. 5739 showed a high left diaphragm with limited excursion. An exploration for a subdiaphragmatic or liver abscess was done on August 11 and none discovered. He continued to have chills and fever, became more jaundiced, and died on August 29, 1932.

Appendectomy, No. 32-3805.

Autopsy No. 6642. The mesentery containing the portal vein was thickened and studded with small abscesses. The liver was enlarged and contained many small abscesses scattered along the portal radicles. There was a large abscess, 7 cm. in diameter in the left lobe. Between the liver and the transverse colon, well walled off with adhesions was a large abscess cavity filled with pus. Microscopic sections of the liver showed areas of necrosis scattered along the portal radicles. A gram stain showed no bacteria.

Anatomical diagnosis:
Acute appendicitis.
Pylephlebitis.
Liver abscesses, multiple.
Peritonitis localized in right upper quadrant with subhepatic abscess.

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DISCUSSION

Dr. Fred B. Lund, Boston, Mass.: *Mr. Chairman*—I have very little to contribute to this discussion, but the paper did bring up old times when I was first on duty at the City Hospital, when all the cases we had were neglected cases, and a great many of them had chills before admission, and we had several cases in which pus was found between the folds of the mesentery of the appendix.

We couldn't know we had this disease at the time we operated, but it used to develop about ten days after the operation, in which again an appendix with an abscess was present with a lot of inflammatory thickening.

I don't remember ever noting thrombosis of those veins, at the time of the operation. The patients didn't do perfectly well from the first. The symptoms were all right, that is, there wasn't distention. But the patients began in a week or ten days to have chills and run a bad chart, and didn't look sick enough to have such a bad chart, and then usually there was a slight jaundice, and the patient was uncomfortable, with a yellowish color. This seemed like the kind of jaundice we get in anemia. Then, in a large proportion of the cases, multiple abscesses of the liver appeared.

We became very much excited about what we should do about the liver. Of course, the portal vein spreads into the liver, and numerous abscesses are found on the surface and cases seem to have been reported where sometimes there were a few large abscesses in the liver which coalesced, so that you could cure your patient by opening this abscess.

We tried it many times. The man who took most interest in it was Dr. Munro's father. I was associated with him at that time and he interested me in it. We didn't know you could do any good by cholecystectomy, and I don't think you could, but we cut down a number of these livers and a number were spotted with multiple abscesses, just as when we took out kidneys for multiple abscesses of the kidney. In those cases you could put drainage to the liver, but as far as I can remember, they were all fatal.

Now, as to this kind of paper, when a man has one case of a disease which is now much more rare than it used to be, and follows it up in every detail, and gives it consideration, it brings a lot of interesting things to light. I think if you can get above the clot, in case you do have another case of this disease, it wouldn't be a very serious thing to tie the vein above it. I should think it would be distinctly worth while, because if you really got above the clot, you could be sure you were averting the trouble.

Dr. Horace K. Sowles, Boston, Mass.: I should like to burden you with the details of one particular case which was operated on by my former chief, Dr. F. G. Balch. He is not present to report it in person.

I happened to be intimately associated in the subsequent course of this particular patient, and it is the only one to my personal knowledge and experience who has recovered from this disease. He was the son of a doctor, in Wilkes-Barre, Pennsylvania, fourteen years of age, a student at Andover Academy.

He was admitted to Baker Memorial on February 21, 1933, just too late to be included in Dr. Allen's series. There was nothing particularly unusual about the onset of his disease. He was operated on within twenty-four hours after the onset of the symptoms. At the time of admission to the hospital his temperature was 101°, pulse 90, and white blood count 21,000, and that was the highest point reached in his blood count, because subsequent counts throughout the course of the next three months never reached above 12,000.

He was operated on, as I say, within twenty-four hours of onset of symptoms. The appendix was swollen, partially gangrenous, the mesentery of the appendix very much thickened and edematous. The mesentery of the appendix was tied before cutting, which I think is an important point in technique in these cases. It gives you a blockage of the mesenteric veins before the mesentery is traumatized.

Next day his temperature was lower, but at the end of forty-eight hours it rose to 104°, and he had his first chill, and from that time on had a typical chart such as Dr. Allen exhibited, from one to two, or three, or four chills in each twenty-four hours. He had nausea and vomiting at times, and was unable to hold more than a small amount of food in his stomach, and had a sense of fullness after eating a small amount. He had a high diaphragm and limited excursion by x-ray, and a slight suggestion of but no real jaundice.

He was in the hospital for a period of eight weeks. After the third week he was transfused once a week, because we felt that after three weeks' time the infection had reached a stage of subacuteness where transfusion might be of some benefit.

There was a good deal of urge to do an exploration. We even went so far as to schedule him for operation on two occasions, and when we came to the barrier, we refused to jump, so to speak, and sent him back to his room, for lack of positive evidence that we might be able to accomplish something by exploration.

After eight weeks' stay in the hospital, he was taken home to Wilkes-Barre, Pennsylvania. His chills were diminishing somewhat in frequency at this time, though he was still having them occasionally. His illness continued for about eight weeks after his return home, and he is now perfectly well.

There is one factor which I am not familiar with, as to its value or rationale. That is, after his return to Pennsylvania, he received what they called fortified transfusions at intervals of a week for a period of five to six weeks. In this procedure the donor was given typhoid vaccine. A foreign protein reaction was stimulated in the donor by giving him the typhoid vaccine six to twelve hours before transfusion, and the blood given to the patient with the hope, I suppose, that increased resistance developed in that donor's blood would increase leucocytosis.

This procedure was done and he was transfused seven or eight times after his return home, with gradual and finally, complete recovery.

Dr. Horace P. Stevens, Cambridge, Mass.: This paper of Dr. Allen's is very interesting to me because, in a way, I suppose I came along at a sort of transitional period in regard to this subject. I remember that when I was a house officer the subject was one we heard a great deal about. It was a bugbear that we seemed to have inherited from our elders and which was often spoken of and never seen.

Now up to the time when Dr. Allen brought it to our attention it had seemed to me that we had reached a stage where we not only never saw it but also never heard of it. However, of course it does occur as Dr. Allen has shown, but I can't help feeling that his suggestion to tie the vein does carry a considerable risk. It means that we are going to open up beyond the scene of action, so to speak, in the midst of a septic process, and it seems to me that this is certainly not a procedure that can be recommended routinely.

We undoubtedly see a lot of cases where there is great thickening and edema of the meso-appendix. It must be only a very small percentage of these cases that develop pylephlebitis. Now who shall say where we are going to draw the line. Are we going to tie the vein in all of them, or if not, how shall we select the right cases to do it in? If we tie the vein in all of them I am sure that we will be adding a risk at least as great as the risk of a pylephlebitis developing if we don't.

Dr. David Cheever, Boston, Mass.: *Mr. Chairman*—Dr. Allen's papers are always extremely practical and stimulating and his observations on this important subject are no exception to the rule. I quite agree with him that this condition, as a rule, occurs in instances of obscure, therefore neglected, appendicitis. We do not know, of course, how long after the onset of appendicitis a clot in the appendiceal and mesenteric veins may reach the liver by propagation or by embolism.

I well remember the instance of a middle-aged business man who, while at his office down town, had a stomach ache. He drove home in his car, got out of it, vomited, and went to bed on arrival. He was cared for by an excellent practitioner and seen by a competent consultant; there was no tenderness or spasm and only moderate leukocytosis. The picture was complicated by an old urinary infection following an antecedent prostatectomy which it was thought accounted for the fever and leukocytosis. He had a miserable illness, with gradual enlargement of the liver and jaundice and at autopsy there was found a small focus of suppuration about a retrocecal appendix with multiple abscesses of the liver. The diagnosis was never made during life.

The practical point was brought out by Dr. Stevens that what we say and what is published are going to have a good deal of influence on the practice of men all over New England and I think it would be unfortunate if the practice of ligating the ileocecal vein proximally became widespread.

In the first place, of course, as Dr. Allen has shown, pylephlebitis is an uncommon complication, there having been twenty cases in nearly 9,000, or one instance in 370 patients. It seems to me that its infrequency makes it quite unlikely that in the two instances of veins ligated recently at the Massachusetts General Hospital by Dr. Allen since he began to investigate this, there would have been likely to develop a pylephlebitis. I cannot feel that in cases of acute appendicitis, the wider exposure and increased trauma and handling which would be necessary to perform these ligations, would be wise unless there was very definite indication. It would seem that the procedure would tend toward dissemination of infection. Undoubtedly in experienced hands and with careful selection of cases where the presence of a local thrombophlebitis of appendiceal veins is demonstrated tending to extend upward, a ligation of the venous channels proximally may be a relatively harmless and perhaps a life-saving measure. We will await with great interest the further experience of Dr. Allen and others in this field.

Dr. Arthur W. Allen, Boston, Mass.: I expected to arouse a more heated discussion than has been evidenced by these polite gentlemen. I was afraid that many of you would gain the impression that we believe in ligation of the ileocolic vein in the majority of cases of acute appendicitis. We wish to emphasize, and our figures would indicate, that such a procedure is justifiable only in about one case in three hundred. Only two cases suitable for the procedure have come through our hospital in the past two years, or at least, only two cases have been so treated during this time. Both of these were diagnosed as appendicitis late in the disease, both had chills and at operation, were found to have a gangrenous appendix with only localized peritoneal reaction. There was thrombosis of the ileocolic vein. The vein was ligated above the thrombosis and neither of these cases developed pylephlebitis. Of course, we realize that they might not have developed pylephlebitis anyway.

We have seen patients with severe chills in early appendicitis that were successfully operated upon without developing pylephlebitis. When we ana-

lyze these cases more carefully, we find that most of them have been operated upon within forty-eight hours of the onset and, although the records fail to mention it in most instances, we are under the impression that the thrombosis of the veins would not have extended into the ileocolic vein by this time. Two such cases were investigated with this in mind at the time of appendectomy, thirty-six and forty hours after onset of symptoms and the thrombosis was found limited to the mesentery of the appendix. Neither of these had their ileocolic veins tied and both recovered without pylephlebitis.

We have seen mild jaundice associated with appendicitis convalescence and in a few instances precipitous swings in temperature and chills, with recovery. We felt that these patients were probably developing pylephlebitis and yet they made a spontaneous recovery so were not classified as such. Perhaps we should have classified them as mild cases of pylephlebitis.

Youth, good care, virulence of the organism and the individual ability of a patient to handle his infection all play a rôle. This was obviously true in the case Dr. Sowles has reported.

Given a delayed operation in appendicitis with early chills, we ask that you remember the possibility of such a case developing pylephlebitis. With an enlarged incision, the region of the ileocolic vein can be inspected and palpated in many instances without danger of spreading infection. If the vein is thrombosed, it will stand out as a cord the size of a pencil. It can be easily separated from the artery which should be spared. The vein can be ligated with very little dissection and without difficulty and in such a case pylephlebitis may be prevented. Many successful cases are reported in the literature.

I also think we should strongly consider the advisability of reoperating upon a patient who has the picture of a developing pylephlebitis after the appendix has been removed, even three or four days afterward, in the attempt to isolate and ligate the thrombosed vein. The mortality is so high in pylephlebitis that any risk is justifiable if the diagnosis is reasonably certain.

NEW AND BETTER TUBERCULIN AIDS CATTLE-HEALTH CAMPAIGN

A new tuberculin, free from foreign protein, has been in use since last April in the testing of cattle for tuberculosis, the U. S. Department of Agriculture reports. The new product is materially superior to the tuberculin formerly available. Officials point out that the improvement came at a particularly fortunate time, since tuberculin testing has been increased as an emergency and drought relief activity, and more cattle have been tested in the last eight months while the new tuberculin has been available than in any previous similar period of the campaign. Dr. M. Dorset, of the Bureau of Animal Industry, says that enough of the new tuberculin is being produced to test more than 18,000,000 cattle annually.

The new tuberculin is made from a pure chemical which takes the place of meat broth. The product is even more reliable in revealing the presence of tuberculosis than the broth tuberculin which for more than forty years has been produced by practically the same method as was devised by Robert Koch, discoverer of the product. A few tuberculous animals failed to react to the Koch tuberculin, excellent as that product was. "The new tuberculin has proved itself more reliable," says Dr. Dorset, "in more than 40,000 comparative tests by the Bureau." In one series, he reports that more than 13,000 cattle were tested simultaneously with both the old and the new tuberculin. Of these, 1,127 reacted to the old tuberculin. Every one of these also reacted to the new tuberculin, and 141 more — 1,268 in all — reacted to the new product. This shows that the new tuberculin is more effective for diagnosis under practical field conditions, and the Department consequently discontinued the production of the broth tuberculin last April.

The new tuberculin is prepared from cultures on a synthetic medium composed of various pure chemicals in the precise proportion required for maximum growth by the bacteria that cause tuberculosis. The most important single ingredient in this medium is a substance, asparagin — a pure crystalline amino acid — which furnishes the nitrogen the bacteria require without introducing any protein whatever. The synthetic medium will grow about four times as many bacteria as an equal quantity of broth culture.

Until 1930 asparagin was a rare and expensive biochemical product, but in 1931 investigators in the Bureaus of Animal Industry and of Plant Industry had worked out new sources and methods for commercial production of the pure product at reasonable cost. The asparagin can be obtained commercially, by chemical methods, from seedlings of the white lupine and of the soybean. In August 1931 Dr. Dorset, in commenting on the manufacture of asparagin, said, "The ultimate results that may follow the establishment of this infant industry cannot be predicted, but it may at least be stated that ability to make asparagin commercially in the United States is a distinct asset to the scientific study of tuberculosis and the wide range of problems related to this disease." Continuing research, with a supply of asparagin available for experiment, led to the development of the improved tuberculin now in use.—*U. S. Department of Agriculture.*

STUDIES ON OVARIAN DYSFUNCTION

I. The Hormonal "Measuring Sticks" Available for Clinical Use and Values Obtained on Normal Individuals

BY FULLER ALBRIGHT, M.D.,† JAMES A. HALSTED, M.D.,† AND ELIZABETH CLONEY, B.S.†

SCIENCE emerged from metaphysics when people began to make measurements. With even crude measuring sticks one is more apt to arrive at the truth than with speculation alone. Thus Galileo in the XVI Century, using the Leaning Tower of Pisa as a measuring stick, scattered medieval conceptions to the winds by demonstrating that two bodies of different weights fall at the same rate. So in endocrinology. The knowledge with regard to each gland reached a useful rather than a speculative state when some variable was found which could be measured and which varied with the activity of the gland in question. These variables, or measuring sticks, are widely used, e.g., the level of sugar in the blood for islets, the level of calcium for the parathyroids, the metabolic rate for the thyroid, now the serum sodium level for the adrenal cortex, etc.

With regard to the ovary the physiological laboratories have supplied us with much accurate information; probably as much as we know for any of the glands. The clinical side is far behind. This is not because possible measuring sticks are not available. Little use has been made of them, however, and what constitutes normal measurement is still unknown.

This paper concerns itself with the available measuring sticks and the values obtained on normal individuals therewith. The measuring sticks are not all that could be desired and a vast amount of further work will have to be done before we know what constitutes a normal measurement. Imperfect as it is, this knowledge leaves one in a better position to unravel certain clinical problems than if one merely speculated without measurements of any kind.

The problem with regard to the ovary has certain difficulties which a similar problem with regard to the thyroid, for instance, does not possess. In the first place, the function of the ovary is cyclical. Therefore, any table of normal values will have to include levels for each of the twenty-eight days. This at once multiplies the difficulty by twenty-eight. The age will be even more of a factor. Finally, the ovary produces two hormones, estrin and the corpus luteum hormone, progestin, and these in turn are brought into existence by the action on the ovary of the anterior pituitary hormones, prolan A and prolan B respectively*. The ideal to be arrived at, therefore, would be four measuring sticks for the four hormones and four tables of normal values. Then any disorder could readily be classified as hyper- this or hypo- that, etc.

Of the four hormones, at the present time in this clinic estrin is being measured in the twenty-four hour urine specimen by the method of Kurzrok[1] and the prolan A in the first morning specimen by the method of Zondek[2]. For the other two hormones no measuring sticks have yet been perfected sufficiently accurately to detect normal amounts. This probably does not constitute a fifty per cent deficiency in our armamentarium, however, for the following reason. The corpus luteum has been developed by mammals apparently so that its hormone can cause the changes necessary for intrauterine gestation and does not exist in premammalian vertebrates. It, therefore, seems likely that the hormone, estrin, and its pituitary stimulator, prolan A, are the more fundamental. Furthermore, certain information regarding progestin can be obtained by performing an endometrial biopsy with a special punch apparatus. The presence of the secretory phase is conclusive evidence of an active corpus luteum and indirect evidence of the presence of prolan B. So this in a sense constitutes a very rough manner of measuring progestin and its pituitary stimulator, prolan B.

METHODS

Estrin in twenty-four hour urine specimen—Method of Kurzrok[1]

A 700 cc. aliquot of a twenty-four hour urine specimen is filtered, made acid to litmus, saturated with NaCl, and extracted for twenty-four hours with ethyl acetate. The ethyl acetate is boiled off; the active principle is taken up in 7 cc. of olive oil, and injected in 1 cc., 0.5 cc., and 0.2 cc. portions into castrated female rats. Each amount is injected into three rats. The test is considered positive for any one amount if two of the three rats go into estrus. The result is recorded as so many rat units per twenty-four hours. The original method specifies three injections in twenty-four hours; inasmuch as oil is absorbed slowly it seemed unnecessary to divide the dose. It was found that equally good results were obtained by administering the extract in one injection. This is our present routine.

Prolan A in first morning specimen — Method of Zondek[2]

Sixty cc. of urine are made acid to litmus, filtered, added to 300 cc. of 95 per cent alcohol and shaken.

*From the Ovarian Dysfunction Clinic of the Massachusetts General Hospital. This investigation was made possible by a grant from the Delamar Mobile Research Fund.
This paper was read before the American College of Surgeons, Boston, October 17, 1934.

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*The term "estrin" is used in this paper to refer to estrogenic substances, no attempt being made to differentiate trihydroxyestrin and ketohydroxyestrin.

The mixture is allowed to stand twenty-four hours in the ice-box. The precipitate is removed by centrifuging, dried, shaken for five minutes with anhydrous ether, again collected by centrifuging, and dried a second time. The active principle is taken up in 12 cc. of water, the precipitate being allowed to stand in the ice-box for twenty-four hours in contact with the water. The hormone is assayed on four infantile mice, each receiving six doses of 0.3 cc. The result of the test is determined by gross inspection of the ovaries, a positive test showing enlarged congested ovaries with evidence of follicle ripening. Opening of the vaginas of the mice and enlargement of the uteri constitute additional evidence of a positive test since estrin has been removed. The result is recorded as positive or negative. Zondek advocated the use of infantile rats and stated that they were four times as sensitive to prolan A, animal for animal, as mice. This was not our experience as mice were found more satisfactory in that they were more sensitive. Furthermore a positive test in an infantile rat is less easily determined than in a mouse since their ovaries normally contain a few enlarged follicles. This discrepancy in opinions has recently been clarified by Hamburger[3], who found the rat more sensitive to the prolan A-like hormone of the urine of pregnant women and of patients with testicular tumors, but the mouse more sensitive to the prolan A of the anterior pituitary and of the urine of castrates. Since the hormone in question in this study is that of the anterior pituitary, mice are much preferable.

The presence of prolan B in large amounts, of course, would manifest itself by the presence of corpora lutea in the ovaries of the immature mice. The urines of normal women never give positive prolan B reactions.

It will be noted that the prolan A measuring stick as used in this laboratory can only differentiate two quantities, an amount in 60 cc. of morning specimen capable of giving a positive test and an amount incapable of so doing. It still turns out to be a useful test since normals usually turn out to have a negative test (v. infra) and certain of the abnormals turn out to have a positive test. With the technique used here, therefore, one can only recognize the presence of too much prolan A, since the normal amount gives a negative test. Tests have been worked out for the detection of the small normal amounts of prolan A in the urine[4, 5, 6], but these are only just being started in our laboratories. These tests should differentiate the urines with a normal amount and those with none, so that in the near future it should be possible to distinguish three amounts, too little, normal and too much.

Results of Estrin and Prolan A Measurements on Normal Individuals.

We have performed 154 estrin and 82 prolan A tests on normal women. The data can best be divided into two parts. The first part consists of daily estrin and, in some instances, daily prolan A tests during one or two entire months on the urine of three "normal" individuals. This part of the investigation was planned to show what variations are to be expected in any one individual at different times in the month. The second part consists of determinations of estrin and prolan A at weekly intervals for four weeks in the urine of eleven normal individuals of different age periods. These data aim to give some idea of the variation between individuals.

Part I Data. Two of the individuals were patients at the House of the Good Samaritan, Boston, suffering from chronic rheumatic heart disease; one was a technician. The estrin assays were done daily for one month on one of the individuals and for nearly two months on the other two. The prolan A tests were done daily on one of the individuals and almost daily on another. The results are shown in figures 1, 2, and 3.

Part II Data. These data are shown in figure 4. The individuals consisted of four technicians, four nurses, three office workers and the two patients with rheumatic heart disease. Their ages varied between sixteen and forty-three.

An examination of the data brings out several tentative conclusions for the estrin and prolan A tests as done in this laboratory on "normal" women between puberty and the menopause. (A) The estrin test if taken at any time during the cycle has about an eighty per cent chance of being positive (127 positive tests out of 154 urines examined). (B) The prolan A test is almost invariably negative regardless of the day of the cycle in which it is done (one positive test out of eighty-two urines examined). (C) The amount of estrin excreted has extraordinarily little relation to the day of the cycle although there is perhaps a tendency for it to be less one to two days premenstrually and during menstruation.

DISCUSSION

Although it is at first disappointing not to find definite peaks and valleys in the estrin excretions at various points in the cycle, it turns out to be very useful to know that there are about four chances out of five of a twenty-four hour urine sample containing a demonstrable amount of estrin; by the law of chance, given two samples one week apart there would be twenty-four chances out of twenty-five of one of them being positive. One can at least say that if prolan A tests and estrin tests are done on the urine of one individual a week apart and if the prolan A tests are both negative and at least one of the estrin tests is positive the findings are consistent with normal; and that if the findings are otherwise they probably represent an abnormality. This knowledge will be made use of in subsequent papers.

One would like to have more data with regard to all the variables, age, day of cycle, etc. The objection to spending too much time on collecting such normal data is that better methods

are certain to develop and then standards collected by previous methods will be of no use. It is highly probable that with better technique, furthermore, definite hills and valleys will appear in the estrin excretions**.

Because there are so many opportunities for variation we believe that each laboratory must establish its own standards of normal. At the present time the results obtained by any two laboratories are almost sure to differ by a considerable margin. The results obtained by other investigators are of interest. Siebke[7] measured the excretion of estrin during the entire cycle in nine normal women and found some estrin in nearly every specimen with a tendency to be highest at about the middle of the interval. There was also a tendency toward a premenstrual drop in estrin excretion. Kurzrok[8] states, without giving data, that he has found that a normal woman excretes ten to twenty rat units of estrin per liter of urine daily with slight variations during the cycle. Frank[9] states that a normal woman excretes from 800 to 1000 mouse units during an entire cycle with two

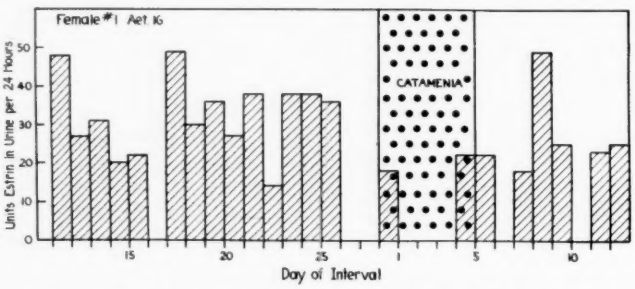

FIGURE 1. Daily estrin excretion, over period of 30 days, on young woman of 16 with normal history as regards catamenia. Note marked drop for two days before onset of catamenia.

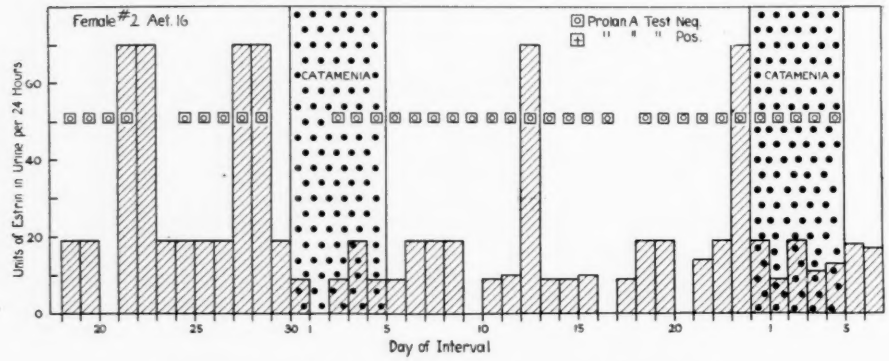

FIGURE 2. Daily estrin excretion, over period of 43 days, on young woman of 16 with normal history as regards catamenia. Prolan A determinations were done almost daily and were in all cases negative (q. v.).

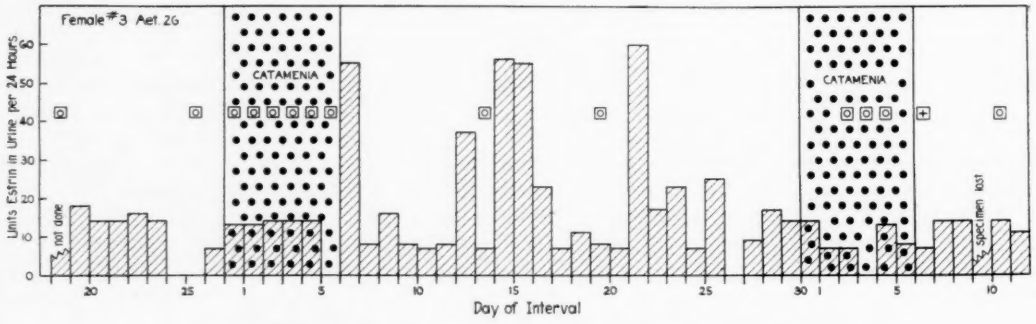

FIGURE 3. Daily estrin excretion over period of 51 days on young woman of 26 with normal history as regards catamenia. Note one positive Prolan A test out of 15.

**Since the data in this paper were collected a paper by Cohen and Marrian has been published (Biochem. J., 28:1603, 1934), which makes it appear likely that the hydrolysis of estrin would be more complete if the urine sample before extraction was brought to a pH of 2 with HCl and autoclaved for 2 hours. This procedure should increase the yields.

periods of maximum excretion occurring at the time of ovulation and just before the period. Gustavson and Green[10] measured the estrin excretion on one person daily for eight and one half months and found a rise between the ninth and twelfth days after menstruation and a second rise from the fourteenth to the twenty-first day. Although Frank, Goldberger and Spielman[11] were able to measure prolan A in the blood of normal women, Zondek[12], with the method described above, was unable to find it in the urine of normal women. It can, however, be found constantly in small amounts when more sensitive methods are used[4, 5, 6].

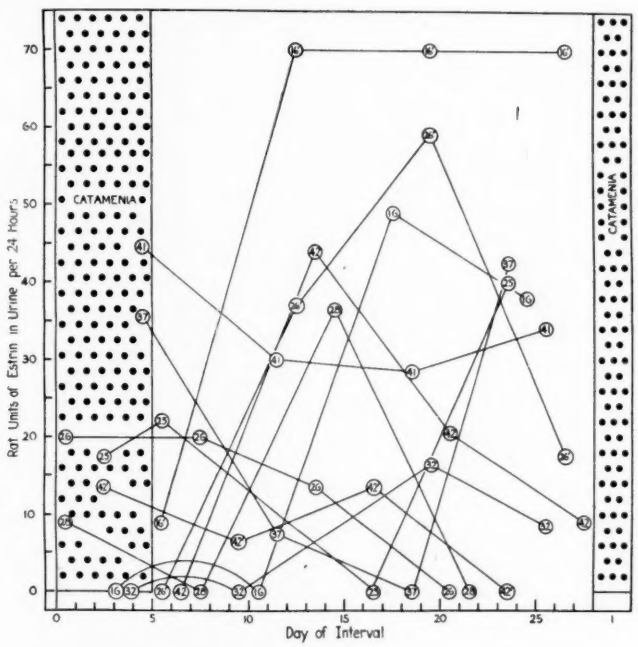

FIGURE 4. Estrin determinations, in 24-hour urine specimens, at weekly intervals for four weeks on eleven women of different age periods with normal histories as regards catamenia. For each determination a Prolan A test was done and found negative. Where the intervals were not exactly 28 days the data were charted in respect to the nearest catamenia. For example the results on a specimen obtained on the 28th day of a 30-day cycle would be recorded on the 26th day on the chart. The numbers in the circle indicate the age of the individuals.

CONCLUSIONS

A twenty-four hour urine sample on a woman with normal catamenia should contain estrin by the method employed in this laboratory in one of two samples collected seven days or more apart in about ninety-six per cent of the cases. A concentrated "first morning specimen" on a similar individual with only infrequent exceptions should be negative in respect to the prolan A test as performed in this laboratory.

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BRONCHIECTASIS AS A SOURCE OF SCARLET FEVER DISSEMINATION*

BY HARVEY SPENCER, M.D.†

FOLLOWING scarlet fever, persistent discharge from infections of the nose, middle ear, mastoids, cervical glands, and other draining lesions may be the source from which scarlet fever is spread by contact to non-immune individuals.

Herewith is reported a case of scarlet fever where the source of the contagion was apparently a child who had suffered from bronchiectasis for many months and who seven weeks convalescent from scarlet fever harbored streptococcus hemolyticus in the pus from his lung. The patient who developed the disease was in intimate contact with this child.

E. B., aged six, was admitted to a Convalescent Home for children on November 30, 1932, with the diagnosis of tuberculosis of the spine. He was kept constantly in bed on a frame in a hyper-extended position, and remained afebrile and was improving steadily until February 5, 1933. On that day his temperature suddenly rose to 103.6°, he vomited several times, and a diffuse red rash appeared on his body. The following morning his temperature was 102.8°, his throat was acutely injected, there was circumoral pallor, his tongue was heavily coated and showed enlarged red papillae at its margins and the fine red rash had spread over his body and extremities. The diagnosis of scarlet fever was made. Since there had been no other case of scarlet fever at the Home during the preceding nine and a half months, an effort was made to discover the source of the contagion.

It was found that H. S., aged eleven, was admitted to the Home on January 3, 1933, with the diagnosis of bronchiectasis of two years' duration. He had been admitted to a Boston hospital on October 15, 1932, where he received bronchoscopic treatment for this condition following the demonstration by lipiodol injection of large fusiform bronchiectatic cavities at the base of the left lung. On November 2, he developed scarlet fever and was transferred to an isolation hospital from which he was discharged on December 17 to a foster home where he remained for two weeks prior to entering the Convalescent Home.

During the first four weeks in the Home his condition remained satisfactory as he ran no fever and did not cough, although there was persistence of dullness at the base of the left lung posteriorly and almost absent voice and breath sounds in the same region, but no râles were heard.

After running a temperature of 100-101° and coughing for several days, he raised about four ounces of bright red blood on February 4, 1933, and crackling râles were heard at the base of the left lung. Postural drainage, instituted at the time of the onset of fever and cough produced two or three drachms of pus twice a day. It was at this time that E. B. became exposed to this boy, when they were confined in adjacent beds. After E. B. developed scarlet fever, cultures of the pus from the lungs of H. S. were examined and found to contain many colonies of hemolytic streptococci. H. S. was sent to an isolation hospital as a suspected scarlet fever carrier.

On February 6, two days after E. B. developed scarlet fever, the nursery maid who took care of both of these boys complained of a sore throat, and at the same time developed a fine red rash scattered in irregular areas over the chest, abdomen and back. Her throat was not injected, her tongue appeared normal, she had no fever, and did not vomit. The rash disappeared within twenty-four hours, and was not followed by any detectable desquamation. She had never had scarlet fever previously. Cultures from her throat contained many colonies of hemolytic streptococci. It was believed that she may have had an atypical case of scarlet fever. No more scarlet fever occurred at the Home until March 22, and in the case which developed at this time there was obviously no etiological association with the other cases reported which had developed six weeks before this.

In an attempt to prove bacteriologically that E. B. was the source of the scarlet fever in the two other patients exposed to him, hemolytic streptococcus was isolated in pure culture from the purulent material expelled from his bronchiectatic cavities. From broth cultures of this organism, filtrates were made in dilutions of 1/1000, 1/2000, 1/5000 and 1/10,000. Control dilutions of the same strength were made by heating the filtrate for one half hour at 100° Centigrade. Intradermal injections were then made in two adults and three children susceptible to scarlet fever, using 0.1 cc. of the filtrate and control dilutions, and the skin examined at the end of twenty-four and forty-eight hours. The results were equivocal and did not confirm bacteriologically, with the organisms isolated, the clinical impression that the organism isolated from E. B. was a toxin producing strain of streptococcus and might be the source of the scarlet fever in the two patients exposed to him.

DISCUSSION

The interrelationship of the various clinical manifestations of infection by streptococcus hemolyticus has been recognized during recent years. Medical literature contains many references to the transmission and transmutation of scarlet fever, erysipelas, puerperal sepsis, "quinsy sore throat", and of the more focal lesions, such as otitis media, sinusitis and cervical adenitis. The presence of streptococcus hemolyticus in whatever location it may exist may be considered a potential source of dissemination of this organism which may develop manifestations of various types, depending upon the characteristics of the host invaded.

Although H. S. was probably a carrier of streptococcus hemolyticus continuously following his attack of scarlet fever, he was likely not a particularly dangerous source of dissemination of this organism so long as his bronchiectasis remained quiescent. However, as soon as cough, fever, and the raising of pus from the lung by postural drainage returned, it seems

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that he became as dangerous a source of dissemination of streptococcus hemolyticus infection as though he had discharging cervical glands or other of the more usual lesions harboring these organisms. It was indeed several days after the return of these symptoms of activity of the bronchiectasis that scarlet fever developed in E. B.

Medical literature contains only slight reference to bronchiectasis as a potential source of the dissemination of streptococcus hemolytic infections. This source appears particularly interesting in that it may remain latent during prolonged quiescent phases of bronchiectasis and later become a virulent source of dissemination if the bronchiectasis again becomes active.

Due to the protracted course of bronchiectasis, the presence of hemolytic streptococci in the pus from the lung seven weeks after recovering from scarlet fever, presents a difficult problem in the control and cure of this patient as a carrier of streptococcus hemolyticus.

REPORT OF A CASE OF STRANGULATION (TORSION) OF THE GALL BLADDER WITH PERFORATION AND GANGRENE IN A BOY OF SEVENTEEN*

BY EDWARD BLANK, M.D.†

STRANGULATION of the gall bladder with perforation is met with so infrequently that a report of this case seems worth while.

CASE REPORT

P. B. A seventeen year old, white, American, high school boy walked into the hospital complaining of pain in the abdomen. Four days before entry the patient was suddenly stricken with severe pain in the epigastrium that radiated to the right lower quadrant and remained localized in this region. There was no vomiting, but nausea and considerable "belching of gas". The following day he vomited profusely and was given a "dose of salts". He immediately vomited and the dose was repeated, followed by two enemata with good results. The pain subsided the next day and on the following day (day of entry) he had very severe pain in the right lower quadrant. He was seen by his local doctor for the first time and was sent to the hospital with a diagnosis of acute appendicitis. Other historical data were of no interest medically.

Physical examination on admission revealed a well-developed, tall, slender lad lying in bed with knees flexed. Face flushed. Skin hot and dry. Tongue dry and heavily coated. Odor of breath foul. Heart and lungs negative. Tenderness all over the right side of abdomen but distinctly more so at so-called McBurney's point with spasm and rigidity. Gall bladder not felt. No other findings of import were made. Temperature 103° orally; Pulse 120; Respirations 25.

White blood count on admission was 15,000 with 93 per cent polys. Urine was negative. Blood Wassermann taken subsequently was negative.

A diagnosis of acute perforative appendicitis was made and operation under gas oxygen ether anesthesia was performed by Dr. A. P. Lowell. The usual right rectus incision was made. On opening the abdomen, the appendix was easily isolated; it appeared and felt normal.

There was no free fluid in the region of the appendix. As the incision was extended upward greenish-brown fluid was seen coming from higher up in the abdomen. As the wound edges were retracted the gall bladder was brought into view; it was as large as a hen's egg, black, distended, without lustre and adherent to the liver by fresh fibrinous adhesions which were easily freed with the finger. There was a definite twist of the gall bladder at its neck and a pin point perforation one half inch distal from the cystic duct. No stones were found in the gall bladder or cystic duct. A trocar was thrust into the fundus and two ounces of brownish-green viscid fluid was aspirated. After the latter was done, the twisted gall bladder uncoiled itself. Cholecystectomy was done, removing the gall bladder down to the neck as the tissues were very difficult to handle because of the extreme friability. A catheter was sewed to the stump, two cigarette drains were inserted in the pouch of Morrison, one drain in right iliac fossa and one in the right flank which was pulled through a stab wound in the right flank. Abdomen was closed in layers in the usual manner.

Gross examination of the specimen revealed that the serosa was covered by a layer of fibrin; it was dark purplish in color; the wall was thickened, edematous and necrotic; the mucosa was dark reddish brown and spongy in consistency. Microscopically the entire wall of the gall bladder was extremely edematous and congested giving an appearance of strangulation. There was no cellular inflammatory reaction in the mucosa or submucosa. On the serosa and extending just beneath it there was an infiltration of leucocytes and lymphocytes with some fibrin formation. Leucocytes predominated the reaction.

The patient made an uneventful recovery and was discharged from the hospital thirty days after operation.

SUMMARY

1. A case of strangulation of the gall bladder with perforation and gangrene is presented.

2. The case is of interest because of its rarity, particularly in a boy of seventeen and because the symptoms so closely simulated acute appendicitis.

I am indebted to Dr. A. P. Lowell, Chief of the Service, for permitting me to report the case and to Dr. R. C. Wadsworth of the Department of Pathology of Tufts Medical School for the pathological report.

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INSECT BITE FOLLOWED BY GAS GANGRENE IN A DIABETIC

Report of a Case

BY JOHN R. BARRY, M.D.*

IN a search of the literature of the past twenty years no reports were found of an insect bite followed by gas gangrene in a diabetic. For this reason a brief report of such a case treated by the author may be of interest.

S. P., forty-nine year old white housemaid was first seen on June 23, 1934. Her past history was negative. She was accepted for life insurance five years before and was told that her condition was excellent. On June 20, 1934, while hanging out clothes on the roof, she was stung on the left foot by a wasp. She felt immediate severe pain, and ten minutes later noticed a bluish-black spot the size of a pinhead in the centre of a red swollen area an inch in diameter. The infection which followed radiated from the site of the sting. When seen, there was a bluish red area with fluctuation and crepitation on the distal lateral portion of the dorsum of the left foot. Pulsation in the dorsalis pedis artery was good. The leg showed moderately large varicosities. T. 101.4°, P. 104, R. 20.

The patient entered the Bay State Hospital, and the septic area was opened widely. Dirty pus with gas bubbled out of the wound and had the foul odor characteristic of gas gangrene. The subcutaneous tissues showed extensive necrosis. Urine test with Benedict's solution at the time of operation showed a brown precipitate. Insulin was given according to urinalyses; saline solution was given by clysis; and the septic area was treated with hourly irrigations and dressings of hydrogen peroxide. A therapeutic dose of gas bacillus antitoxin was given subcutaneously daily for four days. The day after operation the patient began to fibrillate, but responded promptly to digitalization. She was put on a diabetic diet with forced fluids, and insulin was continued four times daily according to urine tests. An ampoule of a non-specific milk preparation was injected intramuscularly daily for five weeks. Dakin's solution, chlorinated soda solution, and Enzymol dressings were tried on the wound but proved to be too painful, so peroxide irrigations and dressings were resumed. Iron and ammonium citrate and Haliver oil capsules were given to increase the patient's resistance and to combat a moderate secondary anemia. The hemoglobin was 70 (T), and the red blood count 3,850,000.

A week after operation the toes and distal portion of the foot showed involvement with pus coming from the region of the second toe. Several of the extensor tendons were exposed and showed much destruction. A week later the plantar surface of the foot showed slowly progressing inflammation. Beginning three weeks after operation, at different times, the second and fourth toes were removed because of gangrene and osteomyelitis of the phalanges, and two generous incisions were made on the plantar surface of the foot for drainage of pus which had extended through from the dorsum.

After five weeks in the hospital the foot had improved considerably, and the patient was allowed to go home. Her pulse and temperature were normal, and she was taking 15-20 units of insulin daily. After a month at home, without apparent cause, her insulin requirement on a 1500 calorie diet rather suddenly rose to 40-45 units daily, and the distal portion of the foot began to swell and become red. She reëntered the hospital, and after two days without any particular change in treatment the inflammation subsided promptly, and the insulin requirement fell to 20 units daily. It was then learned that her sister, by threats and odd behavior, had worked the patient up to a state of high nervous tension. Adjustment of this situation was promptly followed by improvement in the clinical appearance of the foot and diminution of the glycosuria.

By September 24 the foot showed no pus and only slight redness, and all incisions were healed. The patient had been walking on it for two weeks. Insulin requirement was only five units in 2-3 days. X-ray showed a low-grade osteomyelitis of the left fifth metatarso-phalangeal joint with destruction of the joint but no significant reaction. The patient was discharged to return to work three months after the original infection. When last seen in December the foot was completely healed. She wore a shoe and walked without difficulty, and her insulin requirement was only 5-10 units in two weeks.

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AN ATTEMPT TO SECURE X-RAY EXAMINATION OF THE UNCOOPERATIVE TUBERCULOSIS CONTACT*

BY H. R. EDWARDS, M.D.†

TUBERCULOSIS contacts may be divided into two general classes:

1. Coöperative, or those who respond to reasonable requests for routine examination.
2. Uncoöperative, or those who refuse all reasonable requests by public health nurses, physicians, or others to be examined.

The question is frequently raised by tuberculosis administrators as to the amount of time and effort that should be placed on the uncoöperative group to secure examination. Not infrequently, we find individuals from this group developing an active pulmonary disease, and there is always the suspicion that this group of individuals is responsible for much re-infection both in the family and the community.

The problem may be stated as follows: Is it worth while to make unusual efforts to secure the examination of the uncoöperative contact?

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An uncoöperative contact in New Haven means that every such individual has been repeatedly visited either by the visiting nurse, the clinic nurse in some instances, the school nurses in others, and in some cases social workers. Many have been confronted with the usual amount of public health education through lectures, radio and the press. In spite of our ordinary, and in many cases extraordinary effort, they consistently refuse examination. The promptness with which we follow up contacts to newly diagnosed cases does not assure anywhere near complete results. Between July 1, 1932 and June 30, 1933, one hundred and eleven new families were added to our roster. Of the four hundred and thirty-three contacts, two hundred and four or 47.1 per cent, were examined within a year of the primary diagnosis, and of the two hundred and four examined, twenty-five or twelve per cent were found to have tuberculosis. Wiesner et al[1] at the Henry Phipps Institute in Philadelphia reporting on one hundred and eighty-two families, report almost identical results.

In New Haven[2, 3] we had definite information on the amount of new significant disease that will be found by routine examination of all family contacts. The yield in new significant tuberculosis in contacts is found to be greatest when our primary case was known to be tuberculous meningitis, and somewhat less, but still very important when the primary case was pulmonary tuberculosis.

Our present family roster of one thousand, four hundred and twenty-eight families with a tuberculosis problem dates back in some instances to 1910, but the majority are of record since 1920. Naturally, many of the listed contacts are now living away from New Haven, and one hundred per cent performance is impossible. On April 1, 1934, there had been three hundred and eighty-seven or 27.1 per cent of families in which all contacts had been examined. In one thousand and forty-one families, there were still one or more contacts who had not been examined. A general summary of the contact examinations in the incomplete groups is shown in table 1.

The contacts approached for this study were selected according to the following conditions:

1. Adults or children on our tuberculosis family roster who to our knowledge had never been examined for tuberculosis, or at least had never been finally diagnosed.
2. Selection was made irrespective of economic status and ability to pay for an x-ray. Where possible, the contact was supposed to pay seventy-five cents.
3. Special emphasis was placed on those contacts in (1) above that had had recent or prolonged exposure to open tuberculosis, and less on those exposed only to an apparently healed or non-pulmonary form of the disease.

The chief method of approach was through home visitation by the visiting nurses. The school nurses made valuable contacts with the pupils in the schools. The school teachers helped by urging the plan upon the children in their home-rooms.

Of the four thousand, seven hundred and eighteen listed in our families as incomplete, our efforts were concentrated on two thousand, six hundred and thirty-eight as being the most important. They were, for the most part, contacts to a pulmonary form of the disease, either past or present. They may be conveniently divided into two major groups: (1.) adults and preschool, 2005; (2.) school children, 633. There were one hundred and forty-nine or 7.4 per cent of the former, and four hundred and fifty-two or 71.2 per cent of the latter groups actually x-rayed.

The diagnostic method used in this study was the Powers rapid x-ray method, because in 1932[4] we had found it to possess unusual popular appeal among school children, and the diagnostic quality to be reasonably accurate for survey work.

RESULT OF X-RAY

The interpretation of x-rays in this study was made with due consideration of known family history of exposure, the amount of known infection and disease in other contacts

TABLE 1

THE STATUS OF EXAMINATION OF CONTACTS IN 1,428 NEW HAVEN FAMILIES—APRIL 1, 1934

Type of Family	Families			Contacts in Families Not Completely Examined		
	Total Number	Completely Examined	Not Completely Examined	Total Number	Examined Number	Examined Per Cent
With Pulmonary Tuberculosis	1036	308	728	3178	963	30.3
With Non-Pulmonary Tuberculosis	392	79	313	1540	410	26.6
Total	1428	387	1041	4718	1373	29.1

TABLE 2

PAPER X-RAY DIAGNOSES OF 611 UNCOÖPERATIVE TUBERCULOSIS CONTACTS IN NEW HAVEN—1934

Diagnoses	All ages			Under 5		5-9		10-14		15-19		20-24		25-29		30-34		35-44		45+	
	Total	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Totals	611	288	323	—	15	91	82	95	89	48	39	18	24	8	15	5	17	14	25	9	17
Suspicious Pulmonary	8	3	5	—	—	2	1	—	—	1	—	—	—	—	1	—	1	—	1	—	1
Healed Pulmonary	17	6	11	—	—	—	1	—	—	—	2	2	2	—	1	1	—	2	1	1	4
Childhood Type	31	12	19	—	—	5	4	4	6	1	3	2	1	—	1	—	1	—	2	—	1
Suspicious Childhood Type	36	15	21	—	5	7	7	6	8	2	—	—	1	—	—	—	—	—	—	—	—
Cervical Adenitis	1	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Pleurisy	3	2	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1	1
No Manifest Tuberculosis	515	250	265	—	10	77	69	85	75	44	33	13	20	8	12	4	15	12	21	7	10

examined previously, and the visiting nurses' notes on the health of the case x-rayed. Diagnoses of suspicious childhood or pulmonary types were based primarily upon increased hilar or parenchymal markings beyond a reasonable normal limit. Further, we were particularly anxious that some of this group be cleared further with tuberculin, and other methods by the family physician or dispensary. It is likely that in routine interpretation of an unknown group, we might have passed some of these films as showing no manifest disease. Such a diagnosis in these cases would have made it difficult or impossible to secure coöperation for further study. All definite diagnoses were based upon unmistakable intrapulmonary changes. The findings in this study are set forth in table 2.

DISCUSSION

The most striking feature of this study is the fact that no apparently active pulmonary tuberculosis was discovered. Further, that only seventeen apparently healed and eight suspicious lesions were found. Careful clinical study may indicate some activity in these cases, though from available visiting nurses' notes they are in apparent good health. These results are doubtless influenced by the fact that so small a percentage of adults were x-rayed. In all probability, x-ray examination of the majority of the adults would have shown more significant disease.

It is of interest to note that about sixty per cent of the pulmonary lesions either of an apparently healed character or those of a suspicious nature were found in contacts over twenty years of age. This reëmphasizes Barnard's[5] findings in the study of 10,000 paper x-rays in Harlem, New York.

The suspicious childhood type cases were almost entirely among contacts where there has been known exposure to positive sputa cases. Thus careful supervision is imperative.

The high percentage of school children actually x-rayed is to be expected, because there we had the combination of two nursing services as well as the school authorities to urge examination.

The low response from the adult and preschool group is also logical, for there we were dealing with many individuals whom we had labored with for months or years previously. In the majority of instances, they were in apparent good health, and this fact alone made them feel that examination was unnecessary. The matter of cost did not enter seriously into their response, because a large majority of this group were x-rayed free, and the same privilege was available to many who refused. As may be expected, the majority of adult contacts were among a group in a low economic level, and many were on the relief rolls of the Depart-

ment of Charities and Corrections and other relief agencies in New Haven.

The examination of this group gave us fifty-seven new complete families, or a total of four hundred and forty-four with all contacts examined. This represents 31.1 per cent of the 1,428 New Haven families in which there was known to be one or more contacts.

This study indicates quite clearly that in New Haven there is a fairly large percentage of contacts that will consistently refuse examination, regardless of how simple the method or persistent the appeal.

The adult groups are by far the most important as possible spreaders of disease, and with our extra efforts only 7.4 per cent of the adult and preschool groups were persuaded to come for examination. In consideration of all factors involved in this study, it is our conclusion that there will always be certain uncoöperative contacts who refuse all reasonable effort to secure examination. Further, that the cost involved in nursing and other services in an effort to bring unusual pressure to secure coöperation, is not justified.

CONCLUSION

1. Two thousand, six hundred and eighty-three uncoöperative contacts consistently refusing examination at the Dispensary, or by their physicians, were offered an x-ray examination. Six hundred and eleven or 23.2 per cent accepted.
2. Of the school children approached 71.2 per cent were x-rayed, whereas only 7.4 per cent of the preschool and adult contacts responded.
3. There were no apparently active pulmonary cases discovered.
4. Forty-nine cases (8 per cent) were found with apparently healed tuberculous lesions, seventeen of which were pulmonary in type.
5. The contact who consistently fails to respond to the usual routine efforts to secure coöperation, in our experience, does not justify the time and expense of extraordinary efforts.

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HEALTH EDUCATION INSTITUTES

Miss Jean Latimer, Educational Secretary of the Massachusetts Tuberculosis League, has recently concluded three successful institutes on health education in the high schools at Salem and Springfield, covering the northeast, southeast, and southwest sections of the state. Superintendents of schools, high school principals, supervisors and teachers have been active participants in these institutes and have shown an interest in discussing the variety of problems in the field of high school health education. Dr. Jesse Feiring Williams addressed the three institutes on "Basic Principles in the Organization of Health Education" and Dr. H. D. Chadwick, State Commissioner of Health, presented the problem of tuberculosis in high school students and the Massachusetts plan to examine 7th, 9th, and 11th grade pupils by the tuberculosis sanatorium staffs working in coöperation with school medical services.

The institutes began at 3:45 in the afternoon and continued until 9:30 in the evening with a brief intermission for supper. The meetings were held in the auditoriums of the high schools, and several hundred were in attendance at each of the institutes.—*Bulletin of the National Tuberculosis Association.*

CANCER CURE VENDOR ESCAPES PROSECUTION: DIES WITH CANCER

Charles W. Mixer, self-styled cancer specialist of Hastings, Mich., is dead of cancer on the eve of his prosecution on charges of violating the Federal Food and Drugs Act. His principal medicine, "Mixer's Cancer and Scrofula Syrup," composed of potassium iodide, senna, licorice, yellow dock root, sarsaparilla, wintergreen, glycerine, alcohol and sugar syrup, had for a long time evaded the Federal law, until Food and Drug Inspectors intercepted a shipment to Chicago in July, 1932 and based the recent case on it. This step was necessary, as the Federal government can bring cases under the Food and Drugs Act against interstate shipments only.

Even during Mixer's last illness, his office force continued to sell and ship the so-called "cancer cure," which fact led the Government to request that the trial proceed without delay, in spite of the defense attorney's plea that the defendant was seriously ill and could not stand trial. Mixer's death has now blocked the suit, which will necessarily be dismissed automatically. — *U. S. Department of Agriculture.*

CASE RECORDS
of the
MASSACHUSETTS GENERAL HOSPITAL

ANTE MORTEM AND POST MORTEM RECORDS AS USED IN WEEKLY CLINICAL-PATHOLOGIC EXERCISES

EDITED BY RICHARD C. CABOT, M.D.

CASE 21051

PRESENTATION OF CASE

A sixty-six year old American widow entered complaining of soreness in the right epigastrium, weakness and vomiting.

Approximately two months before entry she had an attack of vomiting, the vomitus consisting of yellow material. Associated with this attack was a burning sensation in the midepigastrium and soreness along the right costal border. There was no real pain. She had similar attacks of vomiting about every other day since then. Three weeks after the onset of these attacks she noticed that her stools were clay colored and later that her skin was yellow. She had a little fever which continued for a few weeks. She lost her appetite and also about twenty-five pounds in weight. She continued to have these attacks but for a few weeks before entry her stools were not clay colored and the jaundice had disappeared. Constipation had been marked during this period.

Her family and marital histories are noncontributory.

Twenty-five years before entry she had a gallstone attack characterized by sharp colicky pain in the epigastrium with vomiting. She believed that she was jaundiced about once every six months for several years later. Finally, a physician treated her with olive oil, following which she passed several stones about the size of beechnuts. Ten years before entry she had "shingles" on the right side of her neck for a period of about three months.

Physical examination showed a tired-looking woman with brownish skin and yellowish sclerae. There were a few moist râles at the right base. The heart was enlarged or displaced to the left, the maximum apical impulse being present in the anterior axillary line. The blood pressure was 145/80. The liver dullness extended from the fourth intercostal space to two fingerbreadths below the right costal margin. The liver edge was moderately tender and below it was a hard, small mass. The abdomen was slightly distended but not rigid. There was no fluid wave.

The temperature was 100.3°, the pulse 115. The respirations were 20.

Examination of the urine showed a specific gravity of 1.005 to 1.018 with a slight trace of albumin. Bile was present in five out of seven examinations. The sediment contained a rare white blood cell and epithelial casts. The blood showed a red cell count of 3,460,000, with a hemoglobin of 60 per cent. The white cell count was 18,400, 89 per cent polymorphonuclears. The stools were soft, light brown in color and showed a negative guaiac test. The van den Bergh was 12.2 milligrams, the icteric index 70. The non-protein nitrogen was 20 milligrams, the blood sugar 144. A Hinton test was negative.

After an intravenous Graham test the gall bladder shadow was not seen. There were several rather indefinite areas of calcification in the region of the gall bladder and cystic duct. These did not have the appearance of stones. The liver edge was low and the margin was straight except in the region of the gall bladder. A gastro-intestinal series showed herniation of about one-third of the stomach through the esophageal hiatus. In addition the hernial sac contained the entire splenic flexure. The portion of the stomach below the diaphragm contained food and a large quantity of secretion. No barium left the pylorus at the time of fluoroscopic observation. At six and twenty-four hours, even though the stomach had been pumped, there was still a large quantity of barium remaining. Films of the chest confirmed the previous findings, showing evidence of hernia of the fundus of the stomach and colon. The right side of the diaphragm was unusually high in position in its medial portion. The remainder of the lung fields was clear. There was an azygos lobe on the right. The heart was not definitely enlarged or displaced.

On the fifth day an exploratory laparotomy was performed. She failed postoperatively, developed râles in her chest and died on the fourth postoperative day.

DIFFERENTIAL DIAGNOSIS

DR. RICHARD H. MILLER: I shall be as brief as possible.

Let us go back to the past history. "Twenty-five years before entry she had a gallstone attack. . . ." Then there follows a vague story of jaundice from time to time, and the passage of what she thinks were gallstones. That is not exactly conclusive, but I think we may assume that she has had gallstones.

Then, in the present illness, at the age of sixty-six, eight weeks before entry, she begins to vomit yellow material, and to notice a burning sensation in the midepigastrium. That to my mind would suggest not so much that there was a stone in the common duct as that something pathologic was going on in the gall bladder. She continues to vomit for two or three days at a time, and then three weeks before entry becomes jaundiced and passes clay colored stools,

meaning the onset, of course, of obstruction in the common duct from one or another cause. Her appetite fails and she loses twenty-five pounds. That loss of weight suggests malignant disease, but, on the other hand, if she has completely lost her appetite it may be due to the fact that she has not taken enough nourishment. These symptoms continued but she states that previous to entry the jaundice disappeared and that the stools ceased to be clay colored, which suggests that whatever had been the cause of obstruction was to a certain degree ameliorated.

On physical examination there is a mass in the region of the gall bladder. I do not think that this is different from what one might expect, but the actual cause of the hard tumor is not quite so clear.

The urine is not significant, though bile is found in several examinations. The blood examination shows that she is moderately anemic. She has an elevated white count. The van den Bergh is 12.2 milligrams which together with the icteric index of 70 means jaundice of considerable degree. The non-protein nitrogen and blood sugar are not remarkable, except that the non-protein nitrogen is somewhat low. Her temperature and this tenderness under the liver suggest some sort of inflammatory process, and that is confirmed by the elevation of the white count.

The Graham test shows that the gall bladder is obviously diseased; the next sentence is hard to interpret because it says that there were areas of calcification which did not look like stones. I should say, not having seen them, that they were stones, even though they did not look like them. The liver edge was low. Now comes an entirely different finding, a herniation of the fundal third of the stomach and of the splenic flexure of the colon through the diaphragm. I assume that this was a matter of long standing, probably congenital, and entirely irrelevant to the present problem. I will not mention it further. The x-ray of the stomach shows some retention of barium, but I think the process going on in the region of the pylorus, or the gall bladder, might account for that. The diaphragm is high on the right side, a fact which would be explained satisfactorily, I think, by the enlargement of the liver.

This sums up the whole thing briefly. What we have to consider is, in the first place, whether this woman has a malignant process around the gall bladder, or in the gall bladder, or in one of the neighboring organs, or whether it is only an infectious process. It seems to me that the most probable diagnoses which we should consider are as follows: (1) Cancer of the pancreas. Cancer of the pancreas cannot be ruled out, but in my experience it would be associated with a more progressive jaundice. It would not show a period of remission as is indicated in this history. (2) Cancer of the common duct or other ducts. This is not extremely rare. I have seen two cases in the past two or three years and in those the progression of the jaundice was so continuous and the jaundice was so extreme that I should be inclined to rule it out in this case. I am influenced by the fact that the jaundice let up after it had first appeared; if I interpret the history correctly. (3) A subacute infectious process involving the gall bladder with enough edema in the region of the cystic duct and the common duct to cause a certain amount of obstruction, with a resulting jaundice. I believe that that is a possible diagnosis and cannot be entirely ruled out.

The occurrence of an ulcer at the pylorus, or near it, I think does not enter into our discussion.

The last thing I have for consideration is that of cancer of the gall bladder itself, of which I have seen a number of cases. The description in this history of a small hard mass, with a certain amount of jaundice, and a certain amount of infection, to my mind fits in with a cancer of the gall bladder, and knowing nothing more about this case I shall lean toward the diagnosis of primary cancer of the gall bladder and secondary subacute cholecystitis.

X-ray Interpretation

Dr. George W. Holmes: The finding of the herniation through the diaphragm is not so clear to me on these films as the statement in the record would lead one to expect. I suppose they had other evidence. There is one striking thing about this case. The stomach retains the barium for twenty-four hours. Apparently when the examination was made the patient had a stomach full of food and the fact that no barium left the stomach during examination would be of no importance under these circumstances. On the other hand it would be important if the stomach emptied at the end of twenty-four hours. We have not sufficient evidence to say that there was a pyloric block, although we ought to think of it. This film shows the high diaphragm on the right side, the heart shadow prominent to the left, and this may be the shadow referred to as the herniation. The fundus of the stomach is narrowed and there seems to be a line above the diaphragm. Evidently they looked for esophageal varices. There is a suggestion of them here, but the other film looks normal. It shows the esophageal markings, and they are normal.

We have a series of films of the gall bladder region. The gall bladder is not visible in any of the films. These small shadows here may have been the shadows that were spoken of in the report. They certainly do not look like gallstones and the distribution is not like gall-

stones. It looks to me more like something in the intestinal tract.

Clinical Discussion

Dr. Tracy B. Mallory: Dr. Allen, you saw and operated upon this patient.

Dr. Allen: This woman was starving to death; also, she had pretty complete jaundice. In spite of the fact that there did not seem to be very much hope of permanent relief there was a reasonable chance that we might find a distended gall bladder that we could anastomose to the stomach and possibly also do a duodenogastrostomy. In carcinomas of the head of the pancreas we not infrequently have patients survive long enough, for the duodenum to become obstructed, so that a gastro-enterostomy may have to be done two or three years after the cholecystgastrostomy. We felt that there was no hope that this case would show a benign lesion. I rather favored the diagnosis of cancer of the head of the pancreas before operation; but at operation it proved that Dr. Miller was right, that the gall bladder was primarily involved as far as we could tell. It was contracted and small. There was a large, irregular mass involving this entire region. The question then arose as to whether we should do something, or simply sew her up. With the first alternative we had a choice of gastro-enterostomy, or jejunostomy. Through a jejunostomy one could feed the patient and also put bile from some other patient into the jejunostomy and the patient might live for a considerable time that way. However, it was decided that a gastro-enterostomy offered more, and that was performed.

Clinical Diagnosis

Carcinoma of the gall bladder.

Dr. Richard H. Miller's Diagnosis

Carcinoma of the gall bladder.

Anatomic Diagnoses

Adenoacanthoma of the gall bladder with invasion and obstruction of the duodenum and metastases to liver and pancreas.
Cholecystduodenal fistula.
Acute and chronic diffuse intrahepatic cholangitis.
Operative wound: posterior gastro-enterostomy.
Diaphragmatic hernia.
Acute perihepatitis.
Atrophy of right kidney.
Leiomyoma uteri.

Pathologic Discussion

Dr. Mallory: The autopsy proved Dr. Miller's diagnosis to be entirely correct. The gall bladder was represented by a small sac containing only a few cubic centimeters of greenish purulent fluid. Its wall was over a centimeter thick. The tumor had extended directly from the gall bladder into the wall of the adherent duodenum and in that way produced almost complete obstruction for which Dr. Allen's operation, a gastro-enterostomy, was the reasonable thing to attempt. There was a single metastatic nodule in the left lobe of the liver, but the finer bile ducts throughout both lobes showed extensive cholangitis. The pancreas, as far as we could make out grossly, was normal.

Microscopically the case is of some interest since the cancer of the gall bladder is for the most part a well-differentiated squamous cell carcinoma, a finding that is not at all rare. On the other hand the metastasis in the liver, and I believe it is a metastasis rather than a second tumor, is an adenocarcinoma. That may at first seem almost impossible, but in the gall bladder, metaplasia of the glandular epithelium to squamous epithelium is not uncommon, and in the gall bladder as in the uterus, where the condition is better known, one occasionally sees adenoacanthomas which are in part glandular and in part squamous cell. In looking over the gall bladder carefully one does find occasional glands scattered here and there at wide intervals among the predominant squamous cells and I think that in this instance the metastasis differentiated entirely toward glandular epithelium, whereas the gall bladder tumor had differentiated primarily as a squamous cell carcinoma. There are also in the pancreas a few dilated duct-like spaces filled with mucus and lined with epithelium, essentially similar to the glands found in the liver nodule, so we may assume beginning extension of the cancer into the pancreas. The reason that the patient's jaundice cleared up for a period was that a spontaneous fistula developed through the carcinomatous tissue between the gall bladder and the duodenum, allowing temporary drainage of bile. Still later the cancer must have extended to and blocked the cystic duct, which was completely occluded at the time of the autopsy. The cholangitis undoubtedly provided the infectious element of the clinical picture.

A Physician: Was there a hernia?

Dr. Mallory: There was a large hernial sac which contained over one-third of the stomach and a part of the splenic flexure.

CASE 21052

Presentation of Case

A sixty year old single American woman entered complaining of interscapular pain of two weeks' duration.

Approximately two weeks before entry the patient was seized with a rather sharp pain in the interscapular region which radiated down to the lumbar region. The pain lasted one or two hours and was not accompanied by precordial distress, nausea, vomiting, fever or chills. Since that time she had occasional sharp interscapular pain which rarely radiated to the precordium. Three days before entry it became more severe, was present over the precordium, and was aggravated by deep breathing. It had no relation to meals or activity. During the past two days she had some shortness of breath on exertion. There was no edema, orthopnea, jaundice or swelling of the abdomen.

Her mother died at the age of eighty-one of carcinoma; her father at the age of eighty-two of prostatic disease. Four brothers and two sisters were living and well.

The patient had a thyroidectomy performed seven years before entry, a tonsillectomy sixteen years before entry, and a hysterectomy for fibroids twenty-five years before entry.

Physical examination showed a moderately well-developed and nourished woman. The chest showed moist râles throughout the left lower lobe and a few at the right base. She complained of pain upon deep breathing. The breasts were negative. The heart was enlarged to the left; the sounds were of fair quality. No murmurs were heard. The blood pressure was 120/70. There was tenderness in the interscapular region, axilla and precordium.

The temperature was 98.1°, the pulse 90. The respirations were 15.

Examination of the urine showed a specific gravity of 1.020, a slight trace of albumin and a rare white blood cell. Bence-Jones protein was absent. The blood showed a red cell count of 4,130,000, with a hemoglobin of 70 per cent. The white cell count was 7,000, 76 per cent polymorphonuclears. Two stool examinations were negative. The non-protein nitrogen of the blood was 34 milligrams, the calcium 11.8, the phosphorus 4.72 milligrams. A phenolsulphonephthalein test showed only 4 per cent excretion at the end of one and a half hours. The second test showed 10 per cent excretion. An electrocardiogram showed normal rhythm with a slight left axis deviation and a slightly slurred QRS.

X-ray examination of the chest showed that the diaphragm was high on both sides and moved well with respiration. The lungs were clear. The heart was prominent downward and to the left. There was marked tortuosity and calcification of the aorta. Examination of the spine showed that the body of the fifth dorsal vertebra was wedge-shaped and markedly narrowed. The body of the eighth vertebra was only slightly narrowed on the right side. There were no definite areas of bone destruction but the left margins of the ninth and tenth dorsal vertebrae were hazy and more radiant than usual. Films of the pelvis and other vertebrae showed no metastatic foci. All the bones were less dense than normal.

Her temperature remained flat for the next six weeks. Further determinations of the serum calcium were 12.90 and 12.42 milligrams per 100 cubic centimeters, and of the serum phosphorus 5.40, 7.12 and 8.8. The non-protein nitrogen of her blood began to rise, reaching 85 milligrams on the sixteenth day, 165 milligrams during the sixth week, and 380 milligrams on the day of her death during the seventh week. During the sixth week, she developed more râles in her chest. Her temperature rose to 100° and she gradually became disoriented. The urine was positive for Bence-Jones protein for the first time during the fourth week, and a serum protein was 8.8. During the seventh week she developed Cheyne-Stokes respiration, marked pulmonary edema and died.

Differential Diagnosis

Dr. Grantley W. Taylor: On the basis of the history, the positive findings are pain in the back of brief duration aggravated by deep breathing and associated in the last two days with shortness of breath on exertion. The mode of onset of pain of this sort is often of considerable significance. Abrupt onset in the course of minor exertion or trauma would raise the question of bone or spine injury. Certainly the history would persuade us to study her lungs, heart, spine and upper abdominal organs with particular attention. A physical examination bears out the fact that there are râles at the bases and pain on deep breathing. These findings alone without discovery of a rub or of a pneumonic process I do not think would explain the pain of which she has complained. The tenderness in the interscapular region would be very difficult to explain on the basis of a pulmonary origin of her symptoms. The chart rules out acute infectious processes. The laboratory findings give us the first evidence of rather severe kidney damage with a trace of albumin in the urine and a very low phenolsulphonephthalein excretion. The non-protein nitrogen is somewhat elevated, as well as the blood calcium and phosphorus. Electrocardiogram was apparently done to rule out coronary disease with pain and precordial tenderness.

The x-ray examination of the lung and chest rules out pulmonary disease. Examination of the spine introduces the first real explanation of her symptoms. The destructive process in several of the vertebrae and the wedge-shaped collapse of the fifth dorsal vertebra give a complete explanation of the pain in her interscapular region and I surmise that the onset was

associated with a minor trauma or a sudden strain of some sort. At this point we were confronted with a process involving multiple areas of bone destruction and severely impairing kidney function. The commonest type of multiple destructive lesions of the bones is that due to metastatic carcinoma. In the course of our physical examination we failed to find anything suggesting a primary malignancy. It might be reasonable to question these operations which she had had years before. Without more definite information on them than we possess, the thyroidectomy is the only one which might have been carried out for carcinoma and which now might be giving rise to bone metastases even after seven years. It is extremely probable, however, that metastatic disease from this source would have made itself apparent much sooner. The diagnosis of metastatic carcinoma would also fail to explain the severe kidney damage. Hypernephroma with metastases might account for the combination of destructive lesions in the bone and impaired kidney function. It should be expected, however, that the urinary sediment would show evidence of blood and that with established metastases there would be an increased likelihood of finding a palpable renal tumor. Parathyroid adenoma with renal stones could give rise to multiple bone lesions but evidence of this condition should be apparent in numerous other bones and the urinary sediment should show evidence of chronic pyelonephritis to explain such marked kidney impairment. Malignant lymphoma may give rise to bone lesions but there should be evidence of lymphoma elsewhere. The obvious diagnosis which would account for these bone lesions is that of multiple myeloma. In any destructive lesion involving the bone, the radiologist has exact knowledge of the appearance of the lesions and is best able to offer a diagnosis.

The patient's subsequent course and laboratory findings confirm the diagnosis of multiple myeloma. The serum calcium and serum phosphorus both showed marked increases as the disease progressed. Later on a serum protein examination showed a marked elevation which is characteristic of this disease. The presence of the Bence-Jones protein in the urine is valuable confirmation. This may be present in other types of disseminated bone disease but it is much more common in cases of myeloma. The astonishing finding in the course of this terminal illness is the very great elevation of the non-protein nitrogen. Certainly these readings justify the designation of uremia. It is likely that the high serum calcium and phosphorus may also be due in part at least to the defective kidney function. It is worthwhile to consider for a minute what condition her kidneys will be found in. Amyloid diseases may occur in association with myeloma but usually only after a more protracted course than this patient apparently suffered. Direct metastatic involvement of parenchymal organs may take place in this disease and it is possible that the kidneys have been destroyed by metastases. Finally, even with neither of these two agencies at work we know that myeloma will give rise to extensive degenerative changes in the kidneys which are characteristic. It is probable that this will be found as the sole explanation of the kidney damage.

Clinical Diagnoses

Multiple myeloma.
Uremia.

Dr. Grantley W. Taylor's Diagnoses

Multiple myeloma.
Uremia.
"Myeloma kidney."

Anatomic Diagnoses

Multiple myeloma.
Fractures of fifth and eighth dorsal vertebrae.
"Myeloma kidney."
Bronchopneumonia.
Pulmonary emphysema, slight bilateral.

Pathologic Discussion

Dr. Tracy B. Mallory: The postmortem examination showed, as Dr. Taylor predicted, the typical lesions of multiple myeloma. There were many scattered tumor nodules throughout the vertebral column and the calvarium, many of which had led to destruction of the bone. The two most important lesions were in the fifth and eighth dorsal vertebrae, where pathologic fractures had occurred, with partial collapse of the vertebrae resulting in kyphosis. In many other areas where frank tumor masses could not be demonstrated the microscopic examination shows a diffuse infiltration of the marrow with typical plasma cells. There was no evidence of tumor invasion of any of the internal viscera. The kidneys, however, showed the classical lesion associated with multiple myeloma. The great majority of the tubules were plugged with extremely dense hyaline casts which occasionally showed early calcification. The tubules behind the points of obstruction tended to be dilated. The glomeruli appeared quite normal. This type of kidney lesion is found in a high proportion of cases which show Bence-Jones proteinuria and is generally absent when this material cannot be demonstrated in the urine. The terminal event in the case was an acute bronchopneumonia.

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MORPHINE, HEAD INJURIES AND ALCOHOLISM

THE attention of those practitioners who may be in charge of injuries to the head or cases of acute alcoholism is respectfully called to the letter of Dr. Timothy Leary, Medical Examiner of the Suffolk County Southern District on page 216 of this issue.

If this improper use of morphine were confined to the ordinary general practitioner who only rarely sees such cases there would be less occasion for surprise, but unfortunately it has been found that hospitals of high standing have employed morphine unwisely in treating the restlessness shown by conditions cited in Dr. Leary's letter.

This practice is a demonstration of the disinclination of many doctors to read current medical literature, for this subject has not been neglected.

HEALTH INSURANCE

THE movement for prepaid hospitalization as one feature of health insurance is well under way and making progress in this country. There are forty or more plans in operation or under consideration based on the recommendations of the American Hospital Association.

One of the more recently adopted is that of the Cleveland Hospital Association with a group of civic leaders as trustees, and is not operated for profit. This Association serves as the executive agent for collecting subscriptions and paying hospital bills in any of the fourteen hospitals of the city which are providing service for the subscribers. The working capital was provided by the Community Chest which was necessary in advance of individual payments.

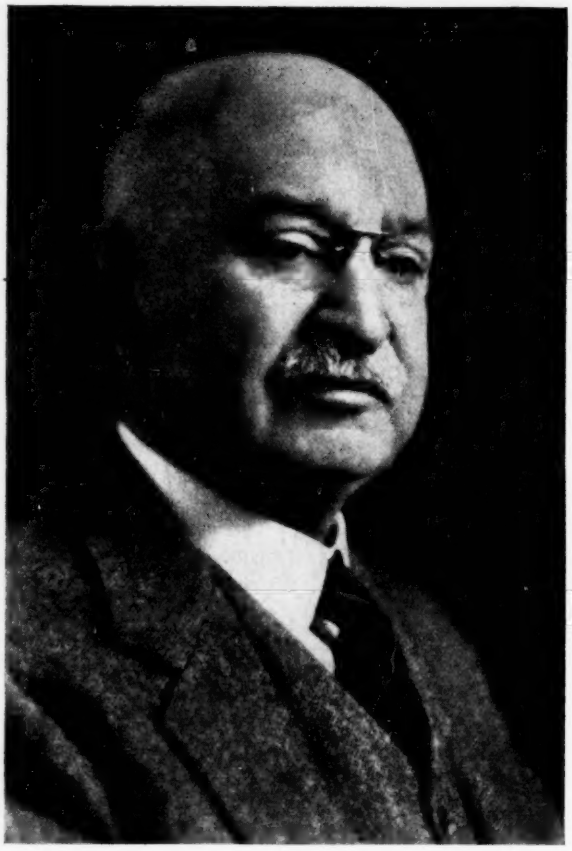
This organized plan has been endorsed by the Cleveland Academy of Medicine which has two representatives on the board of trustees of the Association. The interest of the general public is shown by about four thousand subscribers. Similar plans in Washington, D. C., New Orleans, Houston, San Antonio, and Dallas are under way. The last-named city was perhaps the earliest to develop this method of budgeting against illness on a large scale and the general endorsement of the people of Dallas is demonstrated where nearly twenty thousand subscribers are enrolled.

Elsewhere in the country modifications of plans for prepaid hospitalization are in operation: some including payment for medical service. One of especial interest is that in Oklahoma where farmers are getting medical and hospital care by the payment of about two dollars a month per person. Here the operation of the fund is carried on by the farmers. If we include group practice and various forms of industrial contributory insurance, there are about two hundred plans in operation in this country designed to deal with the unpredictable hazards of illness.

The medical profession has been tardy in a general showing of interest in health insurance partly because there has been a somewhat general condemnation of all such plans by some influential professional bodies, this condemnation having been based on the experience of some foreign countries.

This movement is growing stronger and demands of the medical profession study as to plans which will not exploit the laity and which will be fair to physicians. It does not seem impossible that civic organizations should be found willing to unite with doctors, and, after a study of community needs and resources, provide organizations operating without profit to inspire the low-income groups to take advantage of wholesome forms of health insurance. The benefits will be common to patients, hospitals, and doctors.

It must be recognized that unless influential doctors have very definite influence in shaping these plans, much harm will result. We do not want legislation formulated and managed by politicians. This should be averted by voluntary organizations.



WALTER LINCOLN BURRAGE

It is with a deep sense of loss that The *New England Journal of Medicine* records the death of the secretary of the Massachusetts Medical Society. Within a short period he would have been a member of the Society for fifty years and its secretary for the last twenty-five. Suddenly cut off from an active practice in gynecology by a severe paralytic affection, some thirty years ago, Burrage, with great fortitude, devoted his energies to historical medicine and the arduous and exacting task of keeping the records and minutes for the State Society. No one could have been more faithful in his work, much of it done under the severe handicap of recurring disability. The compiling of the "Directory of the Officers and Fellows", a model of its kind, which always appeared promptly after the beginning of the new year, was no small task. Such devotion to duty should not go unrecorded.

Burrage's fame, however, rests on a broader foundation than his secretaryship. With another gynecologist, Howard A. Kelly, who had a common interest in medical biography, there was published in 1928 the "Dictionary of American Medical Biography", virtually an enlargement of Kelly's "Cyclopedia of American Medical Biography", first issued in 1912. This, the standard work of its kind, was the product of many hands, but to Burrage fell the task of writing not a few of the biographies and a part of the editorship. Thus the spirit of James Thacher and Samuel D. Gross was carried into modern times. Although the great sources for the verifying of references were not at hand, such as have been available to the editors of the new "Dictionary of American Biography", nevertheless, the work of Kelly and Burrage will always remain a creditable performance and a monument to the industry and spirit of the compilers. Burrage, moreover, through his long connection with the Massachusetts Medical Society was able to write the official history of that organization, a volume of outstanding worth.

During the latter years of his life Burrage was confined to his house, except for rare occasions when, in his wheelchair, he attended to his duties as the Society secretary. Energetic as nature allowed him to be, with a decisive mind and a broad interest in all that pertained to medicine, visitors to his home were cordially received. Those who penetrated the inner sanctum found the man tolerant in his understanding of the frailties of life and devoted to the medical profession. Fate had dealt him a severe blow which he met with unusual fortitude. Those who knew him intimately were impressed by his innate generosity and love for the task which fell to his lot in life to perform. As an historian of the American medical profession he will not soon be forgotten.

ANNUAL MEETING OF THE MEDICAL SECTION OF THE MASSACHUSETTS MEDICAL SOCIETY

TUESDAY, JUNE 4, 1935

THE interest in Medicine is changing. Up to the past two or three years, the interest in clinical work, in laboratory work, and in medical meetings, has centered around the results of disease. For example, arteriosclerosis has been studied extensively from the point of view of the organs involved. When it affects the heart, a special apparatus and technic have made it possible to identify the location and the extent of the lesion. In the kidney, the extent of damage can now be defined with considerable accuracy. The science of neurology and neuropathology has till now concerned itself almost exclusively with studies of lesions in the brain and cord and of the symptoms to which these lesions give rise. All these studies and many others like them (studies of the liver and pancreas, for example) have advanced medical knowledge to an enormous extent, but it is not enough.

The cause of disease must be known before a really effective treatment can be devised. The time has come to consider Etiology; to see how far the study of pathology and of pathologic physiology has paved the way for a study of etiology and ultimately of treatment.

The program of the Medical Section will, therefore, deal with the Etiology of Chronic Disease. Even though the causes of arteriosclerosis and of arthritis and of many other common ailments are quite unknown, it is worth while to review the present meagre knowledge, and thereby, to direct the thoughts of practitioners to this fundamental subject.

The Section is fortunate in having a number of investigators each of whom has had a long experience and is well qualified to discuss Etiology from a particular point of view.

So far, the program in preliminary form appears as follows:

1. The Etiology of Degenerative Vascular Disease—Dr. Howard B. Sprague.
2. The Etiology of Chronic Arthritis—Dr. Chester S. Keefer.
3. The Part Played by Industrial Poisoning in Diseases of the Kidney—Dr. Alice Hamilton.
4. Symptoms Caused by the Abuse of Certain Drugs—Dr. Francis T. Hunter.
5. The Value of Routine Physical Examination in the Prevention of Disease—Dr. Joseph H. Pratt.

THE RESUMPTION OF THE COLUMN DEVOTED TO OBSTETRICS AND GYNECOLOGY

THE Section on Obstetrics and Gynecology of the Massachusetts Medical Society has arranged to submit a series of brief discussions of conditions which are encountered by practitioners.

These exercises were very much appreciated several years ago, and will give, to those who are interested, concise information which may lead the way to further study.

The Secretary of the Section will arrange for answers to other questions which may be sent in.

THE WAGNER BILL

DR. OLIN WEST, Secretary of the American Medical Association, has submitted an abstract of the bill introduced in the U. S. Senate by Senator Wagner, which appears on page 211 of this issue and should receive careful study by the medical profession.

We suggest that the Committee on State and National Legislation of the Massachusetts Medical Society and all other bodies of organized medicine, place before their members, recommendations for such actions as may be indicated.

THIS WEEK'S ISSUE

CONTAINS articles by the following named authors:

SNYDER, WILLIAM H., JR. M.D., Harvard University Medical School 1930. Resident, East Surgical Service, Massachusetts General Hospital. Assistant in Surgery, Harvard Medical School. Address: Massachusetts General Hospital, Boston, Mass. Associated with him are

HALL, MARSHALL G. M.D., Columbia University College of Physicians and Surgeons, 1933. House Officer in Pathology, Massachusetts General Hospital. Address: Massachusetts General Hospital, Boston, Mass. And

ALLEN, ARTHUR W. A.B., M.D. Johns Hopkins University School of Medicine 1913. F.A.C.S. Instructor in Surgery, Harvard Medical School. Associate Surgeon, Massachusetts General Hospital. Address: 264 Beacon Street, Boston, Mass. Their subject is "The Association of Pylephlebitis and Appendicitis." Page 183.

ALBRIGHT, FULLER. A.B., M.D. Harvard University Medical School 1924. Instructor in Medicine, Harvard Medical School. Assistant Physician, Massachusetts General Hospital. Address: Massachusetts General Hospital, Boston, Mass. Associated with him are

HALSTED, JAMES A. A.B., M.D. Harvard University Medical School 1930. Assistant in Medicine, Massachusetts General Hospital. Address: 264 Beacon Street, Boston, Mass. And

CLONEY, ELIZABETH. B.S. Technician Biological Laboratory, Massachusetts General Hospital. Address: Massachusetts General Hospital, Bos-

ton, Mass. Their subject is "Studies on Ovarian Dysfunction." Page 192.

SPENCER, HARVEY. A.B., M.D. Yale University School of Medicine 1924. Assistant, Department of Pediatrics, Harvard Medical School. Assistant, Department of Child Hygiene, Harvard School of Public Health. Physician to the Convalescent Home of the Children's Hospital, Wellesley Hills, Mass. Consulting Pediatrician, Sherborn Reformatory for Women, Framingham, Mass. Psychiatrist, Division of Mental Hygiene, Massachusetts Department of Mental Diseases. His subject is "Bronchiectasis as a Source of Scarlet Fever Dissemination." Page 196. Address: 572 Washington Street, Wellesley, Mass.

BLANK, EDWARD. A.B., M.D. Boston University School of Medicine 1933. Formerly House Officer, Mt. Sinai Hospital, Hartford, Conn. Assistant Resident, Sanatorium Division, Boston City Hospital, Mattapan, Mass. Now House Officer, Burbank Hospital, Fitchburg, Mass. His subject is "Report of a Case of Strangulation (Torsion) of the Gall Bladder with Perforation and Gangrene in a Boy of Seventeen." Page 197. Address: Burbank Hospital, Fitchburg, Mass.

BARRY, JOHN R. A.B., M.D. Harvard University Medical School 1931. Assistant in Surgery at Boston City Hospital, Out-Patient Department. His subject is "Insect Bite Followed by Gas Gangrene in a Diabetic." Page 198. Address: 1857 Centre Street, West Roxbury, Mass.

EDWARDS, HERBERT R. M.D. College of Medical Evangelists (California) 1918. Director, Bureau of Tuberculosis, New Haven Department of Health. Acting Health Officer, New Haven Department of Health. Director, Bureau of Tuberculosis, New York City Department of Health. His subject is "An Attempt to Secure X-Ray Examination of the Uncoöperative Contact." Page 198. Address: 139 Centre Street, New York City.

The Massachusetts Medical Society

STATED MEETING OF THE COUNCIL

A STATED meeting of the Council will be held in John Ware Hall, Boston Medical Library, 8 Fenway, on Wednesday, February 6, 1935, at 12 o'clock, noon.

Business:

1. Call to order at 12, noon.
2. Reading record of last meeting in abstract.
3. Obituaries of Councilors who have died since the last meeting.
4. Report of Committee of Arrangements for the Annual Meeting next June.
5. Report of Auditing Committee and of Treasurer.
6. Reports of Committee on Membership and Finance.
7. Reports of committees appointed to consider petitions for restoration to the privileges of fellowship.
8. Report of Committee on Medical Education and Medical Diplomas.
9. Appointment of three delegates and three alternates to the House of Delegates, American Medical Association, for two years from June 1, 1935.
10. Appointment of delegate to Annual Congress of the American Medical Association on Medical Education and Licensure at the Palmer House, Chicago, February 18 and 19, 1935.
11. Appointment of two delegates to each of the annual meetings of the five New England State Medical Societies in 1935.
12. *Incidental Business.*

WALTER L. BURRAGE, M.D., *Secretary.*

Brookline, January 30, 1935.

Councilors are reminded to sign one of the attendance books before the meeting. The Cotting Luncheon will be served immediately after the meeting.

SECTION OF OBSTETRICS AND GYNECOLOGY*

THOMAS ALMY, M.D., *Chairman,* 140 Rock Street, Fall River, Mass.

C. J. KICKHAM, M.D., *Secretary,* 524 Commonwealth Avenue, Boston, Mass.

IS THE "PROPHYLACTIC FORCEPS" PROCEDURE JUSTIFIABLE?

IN 1920 DeLee coined the phrase "prophylactic forceps," and at that time he carefully warned the profession against its widespread use, for he well knew that if this method were widely employed serious damage would occur to mothers and babies. It may be well to recall his advice in regard to this procedure. He stated that there should be perfect spontaneous dilatation of the cervix, head well down onto the pelvic floor, in complete anterior rotation, and that the levator ani pillars should have begun to separate. Having these conditions ful-

*A series of short selected articles by members of the Section will be published weekly.
Comments and questions by subscribers are solicited and will be discussed by members of the Section.

filled, he advised the incision of the perineum and fascia over the levator pillar and that the child then be delivered by forceps. In other words, he advised a lateral episiotomy as a part of the procedure. He claimed that this method of delivery reduced the muscular and nervous strain of the second stage of labor, that it saved the pelvic floor from overstretching, that it saved the mother's blood and that it saved the baby's brain from evil results of prolonged compression.

If the rank and file of physicians doing obstetrics adopt this method of delivery, are these advantages gained? His advice presupposes that the operator is well trained in obstetric technique and in the repair of the incised perineum. With such men, this procedure is entirely justifiable and had been used for years before DeLee used this phrase, "prophylactic forceps". The general practitioner, however, has in the majority of cases had no adequate training in operative obstetrics. He has had only the training that is given him in the medical schools or possibly in a small rotating service where there is inadequate supervision of his operative work and little or no check-up of his results. If the general practitioner attempts to carry out this procedure, he is likely to have bad results and the object that he seeks, the saving of maternal suffering and pressure on the baby's brain, will not be accomplished. On the contrary, he will oftentimes obtain a deeply lacerated perineum, a baby that will in many cases be bruised and badly compressed, and frequently the patient will develop sepsis and a long, complicated puerperium may follow.

In all the studies that have recently been made of maternal mortality, the incidence of death following operative procedures has been marked, and although this procedure is apparently simple in many cases, it calls for careful surgical technique, good judgment in applying the forceps, and a complete knowledge of how to repair the episiotomy wound. A low forceps delivery, even when there are good indications, may be difficult, and if the rank and file of general practitioners should begin to carry out this prophylactic forceps delivery, serious results would follow for the mother as well as for the baby.

LEGISLATIVE NOTES

THE WAGNER BILL—SOCIAL INSURANCE

AN ABSTRACT OF S. 1130, INTRODUCED IN THE U. S. SENATE BY SENATOR WAGNER, NEW YORK, TO ALLEVIATE THE HAZARDS OF OLD AGE, UNEMPLOYMENT, ILLNESS, AND DEPENDENCY, TO ESTABLISH A SOCIAL INSURANCE BOARD IN THE DEPARTMENT OF LABOR, TO RAISE REVENUE, AND FOR OTHER PURPOSES

TITLE I. OLD AGE ASSISTANCE

For the fiscal year ending June 30, 1936, there is appropriated $50,000,000, and for each fiscal year thereafter, $125,000,000, 99½ per centum of which is to be allotted to the several States to provide financial assistance "assuring a reasonable subsistence comparable with decency and health to persons not less than sixty-five years of age who, at the time of receiving such financial assistance, are not inmates of public or other charitable institutions". State plans must be approved by the Federal Emergency Relief Administration. The amount that is to be allotted to each State is dependent on the sum made available for similar purposes by the State and its political subdivisions.

TITLE II. AID TO DEPENDENT CHILDREN

For the fiscal year ending June 30, 1936, and for each fiscal year thereafter there is appropriated $25,000,000, nor more than 99½ per centum of which is to be apportioned among the several States to provide aid to children under the "age of sixteen in their own homes, in which there is no adult person, other than one needed to care for the child or children, who is able to work and provide the family with a reasonable subsistence compatible with decency and health". State plans must be accepted by the Federal Emergency Relief Administration. The federal allotment to each State is to be one-third of the amount made available by the State and its political subdivisions for similar purposes.

TITLE III. EARNINGS AND EMPLOYMENT TAXES

Beginning January 1, 1937, an earnings tax is to be imposed on every employee, except on a non-manual worker whose monthly salary is more than $250.

Likewise, an employment excise tax is to be imposed on every employer, at a rate of one-half of 1 per centum of the pay roll of such employer as of January 1, 1937, and increasing until the rate reaches two and one-half per centum of the pay roll as of January 1, 1957.

The taxes so collected are to form a part of an old age fund.

TITLE IV. SOCIAL INSURANCE BOARD

In the Department of Labor, there is established a Social Insurance Board, composed of three members appointed by the President.

The Board, with the approval of the Secretary of Labor, may appoint and fix the compensation of such officers, attorneys, and experts as may be necessary to carry out its functions, without regard to the civil service laws and the Classification Act of 1923.

The duties of the Social Insurance Board are to be, in part:

> (a) To study and make recommendations as to the most effective methods of providing economic security through social insurance, and as to legislation and matters of administrative policy concerning old age insurance, unemployment compensation, accident compensation, health insurance and related subjects;

(b) To supervise and direct the payment of old age annuities under a national contributory old-age insurance system; and

(c) To assist the states in the administration of unemployment compensation laws.

For the fiscal year ending June 30, 1936, there is appropriated $5,000,000, and for each fiscal year thereafter $50,000,000, 98 per centum of which is to be apportioned by the Social Insurance Board to the several States which have certain types of unemployment compensation laws, the apportionment to be on the basis of need for financial assistance in the proper administration of such laws.

Old Age Annuities. — Beginning January 1, 1942, the bill provides for the paying of old age annuities to persons not less than sixty-five years of age, who qualify under the bill. The amount to be paid each annuitant will be an amount equal to a percentage of his average monthly wage.

TITLE V. ANNUITY CERTIFICATES

The Social Insurance Board is authorized to borrow from time to time, on the credit of the United States, for the purpose of increasing the old age fund, such sums as in its judgment may be desirable, and to issue therefor, at such prices and upon such terms and conditions as it may determine annuity certificates.

TITLE VI. UNEMPLOYMENT FUND

This title proposes to establish an unemployment fund and to collect annually from every employer of at least four persons an excise tax, measured by an amount equal to three per centum of the employer's pay roll. An employer may credit against this tax, up to 90 per centum of the tax, the amount of his contributions to any unemployment fund under any state law. Each State is to have an undivided interest in this unemployment fund and may requisition any part of the money held in trust for it.

TITLE VII. MATERNITY AND CHILD WELFARE

For the fiscal year ending June 30, 1936, and for each fiscal year thereafter, there is appropriated $4,000,000 to enable the Federal Government to coöperate with the State agencies of health in extending and strengthening services for the health of mothers and children, especially in rural areas and in areas suffering from severe economic distress.

This appropriation is to be administered by the Department of Labor. Ninety-five per centum of the appropriation is to be allocated for the furthering and strengthening of "State and local health services to mothers and children, extending maternity nursing services in countries predominantly rural, and conducting special demonstration and research in maternal care and other aspects of maternal and child health service."

For each fiscal year, the sum of $20,000 is to be allotted to each State by the Secretary of Labor and the sum of $1,000,000 is to be apportioned among the States in the proportion which the number of live births in each State bears to the total number of live births in the United States as determined annually by the latest available statistics for the United States Birth Registration Area.

The Secretary of Labor may, further, apportion $800,000 "among States unable, because of severe economic distress, to match by themselves in full the amounts made available" under the preceding paragraph, for their use in matching such sums.

The remainder of the appropriation is to be allocated by the Secretary of Labor for special demonstration and research in maternal care in rural areas, and in other aspects of maternal and child health.

To receive its allotment a State must make available a similar amount, except under certain circumstances, and, through its state agency of health, must submit to the Children's Bureau a state plan which must include "reasonable provision for state administration and supervisory services, for furthering local maternal and child health services administered by local public health units for State financial participation, and for coöperation with medical, nursing and welfare groups and organizations, and must give due consideration to the development of demonstration services or services of a more permanent character in rural and other needy areas or among groups of the population in special need".

If the Chief of the Children's Bureau deems the submitted plan "in accordance with accepted standards of public-health practice developed by Federal Bureaus and other agencies," the plan may be approved and the State may thereby qualify for federal aid.

Care of Crippled Children. — For the fiscal year ending June 30, 1936, and for each fiscal year thereafter, there is appropriated $3,000,000, to be administered by the Department of Labor, to enable the Federal Government to coöperate with state agencies concerned with providing medical care and other services for crippled children.

The sum of $20,000 is to be allotted by the Secretary of Labor to each State, and the remainder, less administrative expenses, is to be apportioned among the States "on the basis of need as set forth in plans developed by the state agencies concerned and approved by the Children's Bureau".

Except in severe economic distress or other exceptional circumstances, no allotment to a state shall exceed the sum made available by the State for similar purposes.

State plans must be approved by the Chief of the Children's Bureau and must include "reasonable provision for state administration, adequate medical care, hospitalization and after care, and coöperation with medical, health, and welfare groups and organizations".

Aid to Child Welfare Services. — For the fiscal year ending June 30, 1936, and for each fiscal year thereafter, there is appropriated the sum of $1,500,000, to be administered by the Department of Labor,

for coöperation with the state agencies of public welfare in extending and strengthening, especially in rural areas and areas suffering from severe economic distress, welfare service for the protection and care of homeless, dependent, and neglected children, and children in danger of becoming delinquent.

The sum of $10,000 is to be allotted to each State by the Secretary of Labor, and $1,000,000 is to be apportioned among the States in the proportion in which their population bears to the total population of the United States. No allotment may be made to a State in excess of the sum made available by the State for similar purposes.

The remainder of the appropriation, less administrative expenses, is to be apportioned by the Secretary of Labor among the States unable, because of severe economic distress, to match in full the amounts allotted under the preceding paragraph, to be used by such States in matching such sums, or for special demonstrations of methods of community child welfare services.

To receive financial aid, a State must submit plans, acceptable to the chief of the Children's Bureau.

TITLE VIII. APPROPRIATIONS FOR PUBLIC HEALTH

For the fiscal year ending June 30, 1936, and for each fiscal year thereafter, there is appropriated the sum of $10,000,000, to be administered by the Bureau of the Public Health Service.

The Bureau of the Public Health Service is to allot, annually, $8,000,000 to the several States, "in amounts determined on the basis of the need of each State for such assistance," to develop state health services, including the training of personnel for state and local health work and for the purpose of assisting counties or other political subdivisions of the States in maintaining adequate public health programs.

The sum of $2,000,000 is annually to be made available to the Bureau of the Public Health Service "for the further investigation of diseases and problems of sanitation and related matters".

MASSACHUSETTS LEGISLATIVE NOTES

House Bills 59, 60 and 756, also **Senate 52** have been *approved* by the Committee on State and National Legislation of the Massachusetts Medical Society. The text of House Bills 59 and 60 appeared in full on page 77, issue of January 10.

Senate 52 is the petition of Charles G. Miles that security be provided to hospitals and physicians in the enforcement of reasonable charges for treatment of certain personal injury cases. The text of this bill appears on page 75, issue of January 10.

The hearing on Dr. Miles' bill (Senate 52), together with the several bills on the subject of assuring payment to hospitals and physicians for the care of accident cases other than those coming under the Workmen's Compensation Act, was conducted January 29. The efforts of the Committee on State and National Legislation of the Massachusetts Medical Society brought out a large attendance and the subject matter was carefully reviewed from all angles by many speakers.

With Dr. Miles as a member of the Senate, there seems to be ground for expecting favorable action by both houses. Doctors from all sections of the State were present, which is a demonstration of the possibility of having the profession represented at hearings relating to a common interest.

House 756 is a redraft of the bill which has been submitted regularly for many years and which relates to the qualifications of applicants for registration as practicing physicians. This bill is designed to enable the Board of Registration to require that medical schools whose graduates are applicants for registration must be approved by the Board. The purpose of this bill is to give the Board an opportunity to determine the quality of instruction given in medical schools from which applicants apply, so that those who receive the endorsement of the Board shall be recognized as having been adequately prepared to practice medicine in this Commonwealth.

Among the bills which have *not* been *approved* by the Committee on State and National Legislation of the Massachusetts Medical Society is **House 528,** which provides that a physician shall not remove any limb or organ of the body from a patient, without first obtaining consent of such patient, if the patient is mentally and physically capable of giving such consent; otherwise he shall obtain the consent of the patient's husband or wife or nearest available relative or of the patient's parents or guardian. If the patient is unconscious, whereby he could not or cannot know of any necessary operation, and no relative, husband or wife or guardian is within call, the physician may proceed upon his own judgment, if it is necessary to so do for the patient's safety. There are many provisions in the bill which seem unnecessary and which might operate to the disadvantage of the physician and the patient.

House 623* provides that no person shall be required to submit to any form of vaccination or inoculation as a condition precedent to admission to any school, institution of learning or public institution, nor to the exercise of any right, performance of any duty, or enjoyment of any privilege. Section 2 of this bill reads: "Section fifteen of chapter seventy-six and section one hundred and eighty-one to one hundred and eighty-three, inclusive of chapter one hundred and eleven of the General Laws and all acts in amendment thereof and in addition thereto are hereby repealed."

House 755* is designed to remove from the present law the compulsory features of vaccination unless the physician as a condition precedent supplies said person with a written statement signed by said physician guaranteeing the purity of the virus to be used. Any physician vaccinating a child or adult without the consent of the child's parents or guardians, or the consent of the adult, shall be personally liable for all injuries resulting therefrom.

*Not approved by the Committee on State and National Legislation of the Massachusetts Medical Society.

House 1458* is designed to authorize the Governor to appoint three persons who shall constitute a board of magnetic healers for the purpose of examination and registration of such applicants.

House 717* is designed to provide for the inspection by injured employees of medical reports of insurers' physicians and of hospital reports on file with the department of industrial accidents.

H. 447 is another bill to assure compensation for physicians in cases of inquiry, aside from services coming under the workmen's compensation act.

H. 70 designs to amend Section 34 of Chapter 152 as amended by Section 7, Chapter 309, of the General Laws, in order to secure payment equal to two-thirds of the average weekly wages, not to exceed eighteen dollars, nor less than nine dollars a week to injured employees.

H. 352. This seeks to have the law relating to Narcotic Drugs amended so as to make uniform the provisions governing the use and distribution of such drugs.

This bill requires *careful* study.

H. 351 is for the purpose of amending section 35 of chapter 112 of the General Laws so that sections 30 and 37 to 41, inclusive, shall not apply to physicians who put up their own prescriptions or dispense medicines to their patients; nor to the sale of drugs, medicines, chemicals or poisons by wholesale dealers or manufacturing chemists to retail dealers; nor to the manufacture or sale of patent and proprietary medicines, provided those intended for internal use do not contain salicylic acid, barbituric acid, acetanilid, phenol bromine, iodine, their salts or derivatives.

H. 307. This bill under the petition of Frank L. Whipple seeks to have authority granted to change the name of the Middlesex College of Medicine and Surgery, Inc., to that of Middlesex College and also to give the latter named institution the authority to grant the degree of bachelor of science.

The text of the bill is as follows:

The name of the Middlesex College of Medicine and Surgery, Inc., an educational institution incorporated under chapter twenty-eight of the acts of eighteen hundred and forty-nine under the name of the Worcester Medical Institution, and whose name was changed to its present one under general law, December fifteen, nineteen hundred and fourteen, is hereby changed to Middlesex College; and said corporation is hereby authorized and empowered, in addition to its present powers, to conduct and maintain in the county of Middlesex a college for academic education and to provide therein instruction in such of the sciences, liberal arts, and languages, as the trustees of said corporation shall determine; and said corporation is hereby further authorized to confer the degree of bachelor of science on such of its graduates as are properly accredited and recognized by the majority of its trustees; provided, that the course of instruction leading to such degree shall occupy the same number of years as are required in similar institutions granting said degree.

The Department of Education respectfully recommends that the petition be not granted.

The hearing on this bill may prove to be of interest to all who are concerned with medical education.

*Not approved by the Committee on State and National Legislation of the Massachusetts Medical Society.

A DANGEROUS BILL

House 1400—The petition of Representatives Carney and Grant to provide establishment and administration of a system of health insurance for benefit of employees. Assigned for hearing February 7 at 10:30 A.M. (Room 427), before the Committee on Labor and Industries. *Doctors from all sections of the State should be present.*

MISCELLANY

AMERICAN SCIENTISTS INVITED TO VISIT MOSCOW

LENINGRAD AND MOSCOW UNITE IN PROGRAMS TO ENTERTAIN VISITING SCIENTISTS

Members of the Federation of American Societies for Experimental Biology have been advised by their President, Dr. W. A. Howell of Johns Hopkins University, of the invitation extended by their Soviet colleagues to attend the Fifteenth International Physiological Congress to be held in Russia next summer. The convention will begin in Leningrad on August 8 and after an eight-day visit to scientific institutions in that city will adjourn to Moscow where the meeting and discussions will continue until the Congress terminates on August 18.

"The Russian scientists are preparing to extend a hearty welcome to their fellow-workers from America," states A. K. Dawson, Manager of the Russian Travel Division of the American Express Company, who has just returned from a nine weeks' inspection tour of the travel facilities of the Soviet Union, and whose company is coöperating with the Soviet Travel Bureau in making arrangements for the trip. "This Moscow Convention promises to be the outstanding scientific gathering of the year," says Mr. Dawson.

The Federation of American Societies for Experimental Biology includes the members of the following societies: The American Physiological Society, The American Society of Biological Chemists, The American Society for Pharmacology and Experimental Therapeutics, and The American Society for Experimental Pathology. The following scientists are on the executive committee of the Federation: Charles W. Greene, A.M., Ph.D., Professor of Physiology and Pharmacology, University of Missouri, Columbia, Mo.; Frank C. Mann, M.A., M.D., Director, Division of Experimental Surgery and Pathology, Mayo Clinic, Professor of Experimental Surgery and Pathology, Mayo Foundation, Rochester, N. Y.; W. M. Clark, M.A., Ph.D., Professor of Physiological Chemistry, Member of the National Academy of Sciences, Johns Hopkins University, Baltimore, Md.; Henry A. Mattill, A.M., Ph.D., Professor of Biochem-

istry, State University of Iowa, Iowa City, Iowa; Cyrus H. Fiske, M.D., Associate Professor of Biological Chemistry, Harvard Medical School, Boston, Mass.; Robert A. Hatcher, Ph.M., M.D., D.Sc., Professor of Pharmacology, Cornell University Medical College, 1300 York Avenue, New York, N. Y.; E. M. K. Geiling, M.S., M.D., Ph.D., Associate Professor of Pharmacology and Experimental Therapeutics, Johns Hopkins University Medical School, Baltimore, Md.; S. Burt Wolbach, M.D., Shattuck Professor of Pathological Anatomy, 25 Shattuck Street, Boston, Mass.; Shields Warren, A.B., M.D., Pathologist, New England Deaconess Hospital and Huntington Memorial Hospital, Instructor in Pathology, Harvard Medical School, Palmer Memorial Hospital, 195 Pilgrim Road, Boston, Mass.

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

Diphtheria Cases Reported from Cities and Towns Over 10,000 Population

How Does *Your* Community Stand?

City or Town	1934 Estimated Population	1928	1929	1930	1931	1932	1933	1934	1934 Case Rate*
Massachusetts	4,339,210	4,052	4,255	3,322	2,381	1,811	1,041	628	14.5
Lowell	91,729	116	65	21	26	38	71	76	82.9
Somerville	108,040	143	124	179	119	64	63	54	50.0
Revere	37,733	17	51	29	38	9	11	15	39.8
Peabody	22,592	13	21	24	57†	19	12	8	35.4
Lynn	101,678	172	195	191	106	57	28	32	31.5
Chelsea	44,604	18	55	56	42	44	16	14	31.4
Medford	69,960	39	87	47	64	39	41	20	28.6
Fall River	103,646	117	129	117	100	41	34	29	28.0
New Bedford	106,732	258	228	160	118	78	73	27	25.3
Gloucester	24,899	24	14	2	3	1	3	6	24.1
Wakefield	16,910	8	29	10	2	2	5	4	23.7
Southbridge	13,227	13	9	2	0	5	0	3	22.7
Beverly	27,125	5	18	44	7	3	1	6	22.1
Arlington	45,564	15	18	23	8	19	9	10	21.9
Malden	63,320	22	91	24	62	22	11	12	18.9
Lexington	10,892	0	1	7	3	10	1	2	18.4
Athol	11,590	0	1	1	0	16	5	2	17.3
Framingham	23,160	1	6	3	0	2	0	4	17.3
Needham	12,420	1	3	6	1	3	3	2	16.1
Quincy	82,115	20	17	7	10	26	25	13	15.8
Chicopee	45,664	31	40	21	20	8	3	7	15.3
Wellesley	13,463	3	2	1	0	10	2	2	14.9
Boston	782,518	898	1,104	862	701	540	207	114	14.6
Danvers	13,935	4	20	18	4	5	5‡	2	14.4
Attleboro	22,738	19	23	6	7	10	6	3	13.2
Cambridge	108,523	246	144	91	53	69	50	14	12.9
Worcester	199,180	269	125	213	117	102	54	23	11.5
Salem	43,800	70	220	133	60	52	18	5	11.4
Braintree	17,841	9	7	5	4	2	1	2	11.2
West Springfield	17,831	42	10	6	0	1	3	2	11.2
Belmont	27,251	21	11	6	11	6	2	3	11.0
Woburn	20,332	37	33	9	9	7	6	2	9.8
Watertown	42,921	25	35	27	23	13	9	4	9.3
Fairhaven	11,053	9	13	15	11	11	5	1	9.0
Taunton	35,744	8	3	5	38	14	16	3	8.4
Weymouth	23,960	8	12	5	8	7	14	2	8.3
Fitchburg	38,215	27	64	16	10	11	2	3	7.8
Melrose	25,720	15	10	10	8	14	0	2	7.8
Plymouth	12,934	10	3	11	9	3	2	1	7.7
Everett	53,775	48	106	63	103	47	15	4	7.4
Natick	14,190	6	2	3	2	0	0	1	7.0
Waltham	43,065	38	13	4	4	15	4	3	7.0
Haverhill	48,268	44	57	72	6	13	12	3	6.2
Pittsfield	52,045	31	54	8	2	2	2	3	5.8

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

(Concluded)

City or Town	1934 Estimated Population	1928	1929	1930	1931	1932	1933	1934	1934 Case Rate*
Winthrop	17,433	8	7	1	4	3	4	1	5.7
Lawrence	77,934	41	31	16	13	3	3	4	5.1
Milton	19,460	5	0	4	3	3	2	1	5.1
Methuen	21,455	8	4	4	2	2	0	1	4.7
Newton	75,660	14	8	3	1	6	13	2	2.6
Brookline	51,574	4	5	16	9	7	1	1	1.9
Springfield	156,535	348	268	133	39	17	9	3	1.9
Brockton	62,488	59	25	23	48	11	15	1	1.6
Holyoke	53,310	62	36	5	3	2	3	0	0.0
Northampton	24,580	13	12	45§	4	2	2‖	0	0.0
Leominster	21,550	0	2	3	0	13	0	0	0.0
North Adams	20,695	8	1	2	1	0	3	0	0.0
Westfield	20,140	23	10	7	2	0	0	0	0.0
Gardner	19,964	4	2	3	1	0	1	0	0.0
Saugus	16,361	36	7	6	6	1	1	0	0.0
Dedham	16,166	5	2	3	1	0	3	0	0.0
Norwood	15,807	2	3	5	2	2	0	0	0.0
Greenfield	15,710	28	9	5	4	2	0	0	0.0
Marlboro	15,037	17	6	2	4	13	1	0	0.0
Milford	14,711	13	10	1	1	3	0	0	0.0
Newburyport	14,623	2	57	84	13	14	1	0	0.0
Winchester	13,695	5	6	7	18	5	0	0	0.0
Webster	12,656	1	13	1	0	2	0	0	0.0
Amesbury	12,463	2	15	10	11	1	1	0	0.0
Adams	11,996	8	10	17	11	6	1	0	0.0
Clinton	11,658	1	1	0	1	1	0	0	0.0
Swampscott	11,525	29	11	6	5	5	1	0	0.0
Easthampton	11,099	1	10	2	0	0	0	0	0.0
Stoneham	10,884	1	14	10	2	1	0	0	0.0
Reading	10,678	0	2	17	1	1	1	0	0.0
North Attleboro	10,535	22	0	0	0	0	1	0	0.0

*Case rate per 100,000 population.
†Included 25 cases which occurred in a short outbreak in a single school.
‡All cases in State Hospital.
§Included 39 cases in State Hospital.
‖One case in State Hospital.

CORRESPONDENCE

MORPHINE, HEAD INJURIES AND ALCOHOLISM

The Commonwealth of Massachusetts
Office of the Medical Examiner
Suffolk County, Southern District
784 Massachusetts Avenue

Boston, January 14, 1935.

Editor, *New England Journal of Medicine*,

I have repeatedly observed in my experience as medical examiner the unfortunate effects which arise from the use of morphine in cases of cranial traumatism, and in conditions associated with edema of the brain. Dr. Munro* has stressed the harmful results which follow the exhibition of morphine in connection with head injuries. In spite of his protests against its use cases are not infrequently coming into my hands in which the fatal issue was accelerated, and in some was due apparently directly to the use of morphine, no injury adequate to cause death being found.

There is also a tendency to use morphine to control restlessness and even to abate delirium in alcoholism. The control is unfortunately too efficient in some cases. We recognize that both alcohol and morphine are depressants. In fatal morphinism as in fatal alcoholism there is found as an outstanding lesion edema of the brain. The tendency of morphine to produce or to accelerate the production of cerebral edema should lead to its elimination from therapeutic agents indicated in conditions associated with this form of edema or likely to eventuate in it, either in the young or the old. Paraldehyde or the barbiturates are safer, though even the latter should be used with caution.

Yours sincerely,

TIMOTHY LEARY, M.D.

*Munro, Donald: The Diagnosis, Treatment and Immediate Prognosis of Cerebral Trauma. New Eng. J. Med. 210:292 (The Use of Morphia), Feb. 8, 1934.

BILLS RELATING TO LIENS IN TORT CASES

January 26, 1935.

Editor, *New England Journal of Medicine*,

I should like to advise the members of our various County Medical Societies in Massachusetts, through our official *Journal*, of the fact that there are several bills before the Legislature dealing with Liens on Tort Cases for physicians, hospitals and nurses, and that it is very necessary for all physicians, hospitals and nurses to take an active interest in these bills, by getting in touch with their Representatives and Senators either by personal contact, by presence at hearing, by telephone or by post-card informing these legislators, that they are in favor of House Bill or Senate number so and so, for which they should kindly interest themselves and *Vote for*.

It is not necessary for me to go into these matters at length. Practically every physician, hospital and nurse knows that they have rendered faithful services to persons injured in accidents, and for which claims, damages for injuries were paid by insurance companies; and it was understood by the insurance companies that the physician, hospital and (where private nursing was necessary) nurse were to be paid from the settlement made to the injured person; were not paid. This condition has existed long enough, and besides, some lawyers and patients are even more brazen than ever. This unfortunate state of affairs must be stopped and the opportunity is at hand. It can be done now, by proper interest and enthusiasm on the part of physicians, hospitals and nurses as outlined above.

There are eleven states in this country to-day using a Lien Law, and apparently working successfully. The states are as follows: Delaware, Montana, Nebraska, New Jersey, Oregon, Virginia, Arkansas, Indiana, Minnesota, Texas and Iowa. In some of these states the wording of the law varies slightly. Two years ago, when I had a petition introduced, there were only eight states using a Lien Law. Since then three more states have adopted this plan. There must be merit to it, and therefore it is but reasonable that Massachusetts should enact a similar law and at once.

The Medical Profession for all the kindness, good, self-sacrifices, and contributions to charity does not deserve mistreatment and being fleeced by unscrupulous lawyers and ungrateful patients.

Several bills have been introduced in the Massachusetts Legislature this year, and they are coming up shortly. They are as follows (all dealing with Liens for Physicians and Hospitals and some include nurses):

Senate Bill 52 by Senator Charles G. Miles.

House Bill 447 by R. C. Seed.

House Bill 511 by John E. Murphy.

House Bill 1105 by The Massachusetts Relief Officers Association.

House Bill 1109 by Henry M. Landesman.

House Bill 1267 by Frank Ramacorti.

Bill 1276 by Leo D. Walsh, which deals with another phase of Tort Settlements.

Last year, as a member of the Landesman Committee on Economics of the Norfolk District, the Committee called upon the Insurance Company Superintendents and Directors at my suggestion, and had conferences with them. Practically all of these men were willing to coöperate with the medical profession, especially so since they feel that they pay for medical services rendered in their settlements, and therefore see no reason why such bills are not paid when settlements are made.

House Bill 1109 prepared by me with the advice of Dr. Wm. C. Woodward, LL.M., Director of the Bureau of Legal Medicine and Legislation of the American Medical Association, is based upon the Acts enacted in the other states and functioning. It is similar to House Bill 519 which I had introduced in 1933. It is as follows:

HOUSE No. 1109

By Mr. Zimon of Boston (by request), petition of Henry M. Landesman relative to liens of physicians, nurses and hospitals for services rendered in treatment of injuries for which patients receive compensation. Judiciary (Joint).

The Commonwealth of Massachusetts

In the Year One Thousand Nine Hundred and Thirty-Five

An Act relative to Liens of Physicians, Nurses and Hospitals for Services rendered in the Treatment of Injuries for which the Patient receives Compensation.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same, as follows:

Whenever any person shall employ a physician, nurse or hospital to perform professional service or services of any nature, in the treatment of or in connection with an injury and such injured person shall claim damages from the party causing the injury, such physician, nurse or hospital, as the case may be, shall have a lien upon any sum awarded the injured person in judgment or obtained by settlement or compromise on the amount due for the reasonable value of services necessarily performed: provided, that no such lien shall be valid against anyone coming under the workmen's compensation act. In order to prosecute such lien, it shall be necessary for such physician, nurse or hospital to serve a written notice upon the person or corporation from whom damages are claimed that such physician, nurse or hospital claims a lien for such services, and stating therein the amount due and the nature of such services; provided, that whenever an action is pending in court for the recovery of such damages, it shall be sufficient to file the notice of such lien in the pending action.

If the Physicians, Directors or Superintendents and Staffs of Hospitals and nurses do their part as suggested above, the petitioners of the various Bills before the legislature will get together at request of our Legislative Director, Dr. O'Brien, who is ill at

present, or Dr. Begg, and concentrate on one of them, for none of us, I believe, are looking for glory. We are looking for results for all.

I, personally, wish to express my sincere gratitude and appreciation to the other petitioners, especially to our good friend, Senator Charles G. Miles, for their earnestness and endeavor to right a grievous and uncalled for wrong to noble and kindly professional men and women.

As Marcus Aurelius well said, "Do not put over for to-morrow things you should do to-day, for to-morrow neves comes."

Let us all put our shoulders together to put this over. *We Can Do It and Now.*

Respectfully yours,
H. M. LANDESMAN, M.D.

NOTE: Hearings on bills relating to this subject were conducted Tuesday, **January 29. Ask your** Representative as to his attitude.

THE DECLINE OF DIPHTHERIA IN MASSACHUSETTS

The Commonwealth of Massachusetts
Department of Public Health
State House, Boston

January 21, 1935.

Editor, The *New England Journal of Medicine,*

In your letter of January 16 you inquire as to whether the decline in diphtheria shown in the recent tabulation sent to you* could be attributed to greater use of diphtheria immunization. This is, I am confident, the explanation for the decline that has occurred and also for the differences that exist between the various cities. In general it can be said that those cities that are doing the most immunization work have the lowest diphtheria rates and those that have been less active in this regard have the highest rates. The only exception to this statement is to be found in the fact that there are, normally, waves of diphtheria, which were even more marked before immunization work began than they are to-day. Consequently, if the figures for a single year are taken, it is perfectly possible for a community where there is relatively little immunization work going on to have for one or more years a relatively low record. Such a community, however, inevitably experiences a recrudescence of the disease, a phenomenon which is not seen in well immunized communities.

In an article entitled "Diphtheria Immunization and the Private Practitioner" written by Dr. Bigelow and me and published in the April 13, 1933 issue of the *Journal*, it was shown that taking the cities as a whole and considering them over a period of years a very definite correlation existed between the amount of immunization work carried on and the subsequent incidence of diphtheria.

With further reference to the tabulation that was sent to you, it should be said, out of fairness to some of the cities, that during 1934 more active immunization work was carried on than in previous years but too late to affect the record for the year. This will, of course, show up in the 1935 figures. The figures in the table are, then, the result of the immunization status of the community as it existed at the beginning of 1934.

Very truly yours,

GAYLORD W. ANDERSON, M.D., *Director,*
Division of Communicable Diseases.

*See page 215.

THE USE OF DIGITALIS

January 16, 1935.

Editor, *New England Journal of Medicine,*

I have read with much interest Dr. Christian's "Historical Note" in The *New England Journal of Medicine* of January 10, 1935.

In Thacher's "New Dispensatory," second edition, Boston, 1813, the work of Withering in connection with digitalis is mentioned at considerable length, his name being mentioned no fewer than six times.

The preparation first mentioned by Thacher is the powder of the dried leaves of which "the medium dose . . . is half a grain".

"Given in substance" (powder) "there is supposed to be rather more risk of its effects accumulating from repetition of the dose. . . . To obtain the full narcotic" (as opposed to diuretic) "operation of foxglove the dose given at first requires to be gradually increased, but this increase must be made with much caution."

Thacher's work was recommended by Drs. John Warren, Aaron Dexter, and Josiah Bartlett, members of a committee appointed by the Massachusetts Medical Society to examine Thacher's manuscript.

I have no access to Pratt's article (*J. A. M. A.*, 1918) but I question the accuracy of his reference to Austin Flint. Having heard Flint's last course of lectures, I am sure he emphasized the value of digitalis in cardiac failure. In his "Clinical Medicine" (1879) he says (page 223) "digitalis is indicated especially when the heart's action is feeble, rapid, and irregular. . . . The relief of dyspnoea and other symptoms . . . is sometimes remarkable." In his "Practice of Medicine," sixth edition, 1886, page 340, he says, ". . . irregularity, undue frequency and feebleness of the heart's action call for treatment. . . . Digitalis is an invaluable remedy. . . . Digitalis in moderate doses (a grain or two of the leaves, two or three drachms of the infusion . . .) may be continued with advantage for a long period."

Bartholow ("Therapeutics," fifth edition, 1885, page 425) says of digitalis, "The infusion is the best form in cases of cardiac disease with dropsy . . . the powder of the leaves may be given in pill form."

All of which is respectfully submitted.

Very truly yours,
HENRY O. SMITH, M.D.
Hudson, New Hampshire.

SUPPORT OF SENATE BILL 52

January 25, 1935.

Dr. Charles G. Miles,

My dear Senator:

I beg to advise you that at a meeting of the Public Relations Committee of the Massachusetts Medical Society held on January 23, it was voted that the Public Relations Committee contribute its support to the Lien Bill which you are sponsoring (Senate 52). Also, I am glad to be able to advise you that the Greater Lawrence Medical Club, the Gale Hospital Staff, and the Essex North District Medical Society adopted resolutions to the same effect, and I believe that we can guarantee a substantial body of the profession from this district who will be at the hearing when it is held.

With best wishes, I am,

E. S. BAGNALL, M.D., *Secretary,*
Public Relations Committee,
Massachusetts Medical Society.

RECENT DEATHS

BURRAGE—WALTER LINCOLN BURRAGE, M.D., Secretary of the Massachusetts Medical Society for twenty-five years, died at his home, 182 Walnut Street, Brookline, January 26, 1935. He was born in 1860, graduated from Harvard College in 1883, and the Harvard Medical School in 1888; and, after preparing himself for the specialty of gynecology, began practice in Boston in 1890.

He joined the Massachusetts Medical Society in 1886. He was soon recognized as qualified for a brilliant career, but after a few years of active work was obliged to retire from practice, because of a disabling illness which affected his ability to walk, but did not prevent devoting his talents to literary work and research. Among his productions were a history of the Massachusetts Medical Society, a catalogue of the Honorary and Past and Present Fellows of the Massachusetts Medical Society 1781-1931, Gynecological Diagnosis, and the Dictionary of American Medical Biography.

He was a director of the Industrial School for Crippled and Deformed Children, Secretary of the Boston Medical Library for thirty years, and Secretary for the Medical Section of the Massachusetts Branch of the Council for Defense during the World War.

He is survived by his widow, Mrs. Sally (Swan) Burrage; a son, Dr. Walter S. Burrage; and two daughters, Miss Ruth Burrage and Miss Sally Burrage.

NORTON — JAMES JOSEPH NORTON, M.D., of Westfield, Mass., died in St. Francis's Hospital, Hartford, Conn., January 19, 1935, after a long illness which had interrupted his practice for much of the time since 1931.

He was born in Lee, Mass., the son of James and Julia (Barrett) Norton, in 1884, and was a graduate of the Lee High School and Holy Cross College. He received his M.D. degree from New York University and Bellevue Medical College in 1908 and completed an interneship in Mercy Hospital, Springfield, Mass. He then began practice in Westfield, where he built up a large general and consultation practice. In 1912 Dr. Norton was appointed a member of the Noble Hospital Staff and in 1921 he was transferred from the Medical to the Surgical Service. He was recognized as an ethical practitioner to a high degree.

In 1914 he married Miss Ann M. Sceery of Hartford, Conn., and in 1926 joined the Massachusetts Medical Society. He was also a Fellow of the American Medical Association and a member of the Westfield Medical Society, the Elks, Order of Hibernians, Knights of Columbus, the Holy Name Society and St. Mary's Church. He entered the United States Volunteer Service, but did not take on army duties. Dr. Norton was not a politician but was active in many civic affairs.

He is survived by his widow; a daughter, Rita, of Westfield; three sisters, Mrs. Nellie Moran, and Mrs. John Bush, both of Lee, and another in St. Joseph's Order of Nuns of Hartford, Conn.; his father, James Norton, and a brother, Dennis Norton, of Lee.

Dr. E. S. Smith, Chief of Staff of Noble Hospital, testified to Dr. Norton's character as follows: "The death of Dr. James J. Norton, fellow physician and surgeon, removes from the Staff of Noble Hospital a member greatly respected and admired. On the Staff for over twenty-five years, he had given untiringly of himself both on the Medical and Surgical Services. His skill in both of these departments is a matter of record."

President P. N. Hall of the Board of Trustees of the hospital expressed the same sentiment.

PEIRSON — EDWARD LAWRENCE PEIRSON, M.D., of 13 Barton Square, Salem, Massachusetts, died at his home, January 18, 1935, after a long illness. He was educated in the schools of his native city and Harvard College, and received his M.D. degree from the Harvard Medical School in 1888. He joined the Massachusetts Medical Society in 1889, and was also a Fellow of the American Medical Association. Dr. Peirson had formerly served as Chief of Staff of the Salem Hospital.

He conducted practice from the same house which was occupied by his father and grandfather, both of whom were physicians; and his son, Dr. Edward L. Peirson, will carry on his practice in the same location.

Dr. Peirson was a member of the Masonic and Odd Fellows Fraternities and the local medical society. In addition to the younger Dr. Peirson, he is survived by another son, Benjamin S. Peirson of Corning, New York; a daughter, Miss Octavia Peirson of Salem; and two sisters, Mrs. Frank Benson of Salem, and Mrs. Richardson, the widow of the late Dr. Maurice Richardson, of Boston.

The Massachusetts Medical Society

SUFFOLK DISTRICT POSTGRADUATE EXTENSION COURSE 1935

PROGRAM

Cardiovascular Disease: (Two Sessions)

No. 1—Disorders of Function of the Heart and Their Treatment.
Date: February 4—8:00 P.M.
Place: Boston Medical Library.

No. 2—Types of Heart Disease and Their Pathological Manifestations.
Date: February 11—8:00 P.M.
Place: Boston Medical Library.

Endocrinology: (Two Sessions)

No. 1—Diseases and Disturbances of the Thyroid and Parathyroid Glands.
Date: February 18—8:00 P.M.
Place: New England Deaconess Hospital.

No. 2—Diseases and Functional Disturbances of Pituitary Gonad Group.
Date: February 25—8:00 P.M.
Place: Boston Medical Library.

Surgery: (Two Sessions)

No. 1—Minor Surgical Problems.
Date: March 4—8:00 P.M.
Place: Boston Medical Library.

No. 2—Common Fractures.
Orthopedic Treatment of Arthritis.
Date: March 11—8:00 P.M.
Place: Boston City Hospital.

Nutrition in Health and Disease: (Two Sessions)

No. 1—Modern Dietetic Principles.
Date: March 18—8:00 P.M.
Place: New England Deaconess Hospital.

No. 2—The Dietetic Treatment of Deficiency States.
Date: March 25—8:00 P.M.
Place: Peter Bent Brigham Hospital.

Gynecology: (One Session)
Date: April 1—8:00 P.M.
Place: Boston Medical Library.

Dermatology and Syphilis: (One Session)
Date: April 8—8:00 P.M.
Place: Boston Medical Library.

REGINALD FITZ, M.D., *Chairman.*

NOTICES

CLINIC AT THE PETER BENT BRIGHAM HOSPITAL

At 3:30 P.M. on Thursday, February 7, in the Amphitheatre of the Peter Bent Brigham Hospital, Dr. Henry A. Christian, Physician-in-Chief, Hersey Professor of the Theory and Practice of Physic in the Harvard Medical School, will give a medical clinic. To it are cordially invited practitioners and medical students. These clinics will be repeated on Thursdays until May.

On Saturdays in the wards of the Peter Bent Brigham Hospital, from 10 to 12, staff rounds will be conducted by Dr. Christian. These are open to all physicians.

INTERNATIONAL MEDICAL POSTGRADUATE COURSES IN BERLIN

The international postgraduate courses have been arranged from March-May 1935 by the Berlin Academy for Medical Postgraduate Training, under the auspices of the Lord Mayor of the City of Berlin and in succession to the "Society of Lecturers for Medical Postgraduate Training in Berlin."

Programs and further particulars are obtainable from the Berlin Academy for Medical Postgraduate Training, Berlin NW7, Robert Koch-Platz 7 (Kaiserin Friedrich-Haus). German as well as foreign doctors may attend the courses.

INSTITUTE FOR TUBERCULOSIS WORKERS

On February 4 to 9, under the direction of the National Tuberculosis Association, there will be conducted an Institute for Tuberculosis Workers at the Hotel Statler, Boston.

The opening address will be by Dr. Frederick T. Lord, President of the Massachusetts Tuberculosis League. He will be followed during succeeding sessions by Dr. Henry D. Chadwick, Dr. John B. Hawes, 2nd; Philip P. Jacobs, Ph.D.; Dr. Alton S. Pope and Dr. Nahum R. Pillsbury.

These speakers carry an assurance of interesting and instructive addresses. Both the medical profession and the public will profit by attendance at this symposium.

For a detailed program apply to the Executive Secretary of the Massachusetts Tuberculosis League at the Little Building, Boston.

ANNOUNCEMENT OF A COURSE IN THERAPEUTICS

This course, which is to be given from the viewpoint of the clinician, will be offered under the auspices of Boston University School of Medicine on Thursday afternoons at five o'clock in the auditorium of the Evans Memorial at 80 East Concord Street, Boston.

Licensed physicians will be admitted and a registration fee of $5.00 will be charged for the entire series of fifteen exercises.

The first four exercises will be devoted to the consideration of arthritis. Announcements of the other subjects will be made later.

REPORTS AND NOTICES OF MEETINGS

NEW ENGLAND HEART ASSOCIATION

A meeting of the New England Heart Association was held in the Peter Bent Brigham Hospital on the seventh of January. The first presentation of the evening was a "Case Report of Decompression of the Chest for Dysphagia Resulting from an Enlarged Heart" by Dr. S. A. Levine. The patient has rheumatic heart disease with fibrillation and is constantly digitalized. Three and one-half years ago she began to be troubled with dysphagia, and since this was felt to be due to an enlargement of the heart pressing on the esophagus, the anterior portions of the third, fourth, fifth, and sixth ribs were removed leaving an area of decompression. Following this surgical procedure the dysphagia was completely relieved and the palpitation of which the patient had also complained was made less annoying.

Dr. C. Derick spoke on "Skin Insensitivity to Streptococci in Subacute Bacterial Endocarditis." The tissue immunity to streptococci in this condition has been long known. Of the fifty-nine cases of rheumatic heart disease eighty-eight per cent showed a marked response to streptococci products when they were injected into the skin, while of the thirty-four cases of subacute bacterial endocarditis only one gave any reaction at all and it was very mild. A stable, soluble nucleo-protein extract was used. Living cultures of both the viridans and hemolytic streptococci were injected into the skin of a few endocarditis patients and the only reaction of any form that was noted was a small red nubbin at the site of injection. Dr. Derick suggested the possibility of this test being used clinically to distinguish between cases of rheumatic heart disease and cases where this condition is complicated by bacterial endocarditis.

Dr. M. N. Fulton spoke on "Observations on the Use of a New Mercurial Diuretic." Mercupurin is a complex mercurial salt combined with theophyllin. Dr. Fulton compared it with the common mercurial diuretic, salyrgan. In rabbits there seems to be a somewhat greater effect from the use of mercupurin than from salyrgan. This is also true in many patients though not universally. The possibility of danger in very large and sudden diureses was discussed. In general the effect of this new therapeutic agent can be said to be the additive actions of the zanthine and mercurial elements.

Dr. W. P. Thompson spoke on "Some Notes on Pulsus Alternans and Gallop Rhythm." In a consideration of the one hundred and seventeen cases of pulsus alternans studied, Dr. Thompson said that seventy-three per cent were males, that the greatest incidence was in the sixth decade of life, that there was severe heart disease in all and congestive failure in over fifty per cent. Sixty-three per cent of the cases studied are now dead, the average duration of life being one year and two months after the condition was discovered. The males lived twice as long as the females and the prognosis of those under fifty years of age was just half as good (one year) as those over fifty (two years). Those patients with a systolic hypertension tended to live longer, and those that had a diastolic hypertension between ninety and one hundred and twenty lived two and one-half times as long as those with a diastolic pressure either above or below this level. One patient lived as long as seven years.

In the cases of diastolic gallop rhythm, seventy per cent were males and the average duration of life was ten months, although one patient lived for seven and one-half years. Those with a systolic hypertension lived twice as long as those without. Of the thirty-four cases of mid-systolic gallop rhythm studied, all are alive and it was concluded that this condition is of no prognostic significance. About twenty per cent of the patients with pulsus alternans or a diastolic gallop had paroxysmal dyspnea and very few had aortic valvular disease. Dr. White discussed this paper and said that both these conditions are almost always associated with left ventricular strain and that very infrequently one comes across a patient that lives for some years.

Dr. H. D. Levine presented a paper on "Observations on Lead IV." In this lead one electrode is attached to the left leg and the other to the fourth left interspace just to the left of the sternum or over the apex of the heart. In a number of the cases of angina pectoris studied, the fourth lead gave the only electrocardiographic evidence of myocardial damage. In bundle branch block where coronary arterial disease is the commonest finding and etiological factor, the fourth lead is of no assistance. From the autopsied cases where the fourth lead had been used before death, it was concluded that this lead is of definite value in the diagnosis of myocardial infarction. The Q waves are of the most importance, their absence in this lead meaning that there is an old or recent infarct. A small Q wave is suspicious.

A study of the fourth lead at the Massachusetts General Hospital has led to the following conclusions: the P-R interval is slightly less than in leads II and III; the total amplitude is usually twice as great as the other leads; and that the R wave is usually greater than the Q wave. In the few cases of coronary thrombosis where this lead has been taken, it was abnormal in all, but it is the opinion of the men at this hospital that on the whole the fourth lead is of no great help.

Dr. E. C. Eppinger discussed "Follow-up Notes on Cases of Total Thyroidectomy." Of thirty-two recent cases where this therapeutic measure has been instituted, twenty-five of them have been for the relief of angina pectoris. Of these twenty-five, twenty are alive and improved, and in seven the improvement is very marked. The other seven cases were patients with congestive failure. Of these, the

result was excellent in three, good in two, and fair in one. The other case died of a pulmonary embolus.

Dr. William Evans spoke on "Long-Standing Cases of Persistent Auricular Fibrillation." Of the thirty-three cases studied with this condition, all had had it for eight years or more and sixty per cent of the patients are still living. The study revealed no apparent connection with age or sex or the related heart disease. The heart condition associated with these cases was about the same as in any unselected group of patients with auricular fibrillation; i.e., fifty-four per cent had rheumatic heart disease, twenty-seven per cent had arteriosclerotic heart disease, fifteen per cent had hypertensive heart disease, three per cent were associated with thyrotoxicosis, and none had luetic heart disease. Dr. Evans concluded that no specific type of patient tended to live longer than others.

Dr. M. C. Sosman was the last speaker of the evening and talked on "Calcification of the Valves of the Heart." Within the past three years, he has studied over one hundred cases of this condition fluoroscopically. Where aortic stenosis has been present at autopsy he has found calcification of the aortic valve in ninety per cent of cases. As an end-result of rheumatic carditis, the mitral valve often shows small areas of calcification. In elderly patients the annulus fibrosus of the mitral valve is sometimes calcified, although this apparently has no association with heart disease. By the use of very high speed x-ray machines and special films, Dr. Sosman has been able to take pictures of these areas of increased density. Since the aortic valves never become calcified in luetic heart conditions, this method can occasionally be used as a point in differential diagnosis, but in the majority of cases it affords only confirmatory evidence. The method is also of very definite value in studying the physiology of the heart. By watching the calcified valves move while listening to the heart sounds with a stethoscope the relationship between these two events may be established.

THE ESSEX NORTH DISTRICT MEDICAL SOCIETY

The ninety-fourth Semi-Annual meeting of the Essex North Medical Society was held at Shawsheen Manor, January 16, 1935, at 12:30 P.M., with eighty-six members present.

At the request of the President, Dr. Burnham moved that the members pay fifty cents toward their dinner, the rest to be paid by the society. The motion was seconded and unanimously adopted.

The Secretary's report was read and accepted as read.

Dr. Parr, the President, appointed the following nominating committee: Drs. Sweetsir, Burnham, Baketel, Healy, and Stokes.

The oldest member of the Society, Dr. Durant, was reported as being very ill. Dr. Bagnall moved that the members send a testimonial of their sympathy. The motion was seconded and unanimously adopted.

Dr. Bagnall reported for the Public Relations Committee of the State that the Committee had voted to conduct a survey on the adequacy of medical service in the State. He called attention to the questionnaire which had been sent to all the Fellows, and urged that those who had not already sent it in, do so at their early convenience, but first giving sufficient thought to the subject matter. He suggested that the percentage of free work and undercompensated work might be estimated from the day book, by an appropriate sign to indicate whether they were uncompensated or compensated ultimately on a reduced fee basis. The percentage of the total work of the month which these represented could then be calculated and reported in answering this question. He invited criticisms and suggestions from the Fellows on the work of the District and of the State Public Relations Committees.

The attention of the Fellows was brought to the last issue of the Bulletin of the American Medical Association—notably, to the first article on the New Jersey Medical Society's methods of adjusting itself to prevailing conditions. The idea of having a Public Health Hour for the conduct of such procedures as vaccination, and diphtheria prevention for those people who had been urged to avail themselves of this protection, and were not economically so situated that they should properly receive this service free from school physicians, board of health physicians, and city physicians, was recommended as an approved method of adjusting the Fellows to conditions in Massachusetts.

Dr. Tighe of Lowell was then asked to comment on the Public Relations Committee in his district and in the State Society. He urged that the Fellows interest themselves in matters of Public Relations, and get behind their committee in order to improve present and future Medical Public Relations. He said that in his district it was felt that this was the most important committee in the Society.

The secretary then read a communication from The *New England Journal of Medicine*, urging a more manifest interest in its advertising. The suggestion was made that post-cards be freely used in requesting samples in order to demonstrate the value of the advertising in the *Journal*, and thereby lessen the cost of publication to the Society.

A letter from the President of the Massachusetts Medical Society urging coöperation of the Fellows in the interest of legislation favorable to the profession was read.

A communication from the Greater Lawrence Medical Club was then read, urging the whole Society to join them in getting behind the physicians' and hospital Lien Law. The secretary in moving the adoption of this recommendation reported that similar action had been taken by the Gale Hospital Staff at its last meeting, and that the trustees of the hospital had been likewise urged to appear in favor of

the bill. The motion was seconded and unanimously adopted.

Dr. Herbert L. Lombard of the State Department of Health was then introduced by the President. He outlined the history of the development of cancer clinics in Massachusetts. The emphasis so far has been laid rather on public education as tending to get the patient to the doctor at an earlier date. After several years of effort it is still statistically apparent that the patient does not consult a physician until six months after noticing the first symptoms. Another six months elapsed before treatment was initiated, but in the past year this time has been reduced by fifty per cent, and the department has now decided to exert its efforts in the direction of providing consultation facilities in the clinics for the doctor. He reported that the cancer clinic in this district had a rating which was only bettered by three other clinics besides the Pondville Clinic. Dr. Lombard said that they are now trying to urge every town in this State to organize a committee. This committee will be composed of one member of each organization from the city or town, whose duty is to get a doctor to address them once a year on cancer. Instead of sending out a good deal of material to the public about cancer, it will be sent to the physician instead, that he may talk to the people.

Dr. Douglass V. Brown of the Harvard Medical School was then introduced as the principal speaker. By way of introduction, he stated that he had been originally engaged in general economic work, and that in that field he had been regarded as a conservative. Since his engagement in medical economics under the auspices of the Harvard Medical School, he has been considered by medical men as slightly radical. He indicated his attitude toward Health Insurance in general, as one of open-mindedness not committed to any specific plan. His attitude toward British Health Insurance, as he had seen it in operation, was of approval in principle, but not in its entirety. He expressed the idea that some health insurance was inevitable politically, if unemployment insurance was enacted, but he felt that some time would elapse before the general adoption of unemployment insurance, and that, therefore, there was time available for the medical profession to get ready for the new deal. British conditions are more nearly parallel to those in this country than are those in any other country, and the British system of insurance forms a better basis for study than that of any other nation.

The principles of the British act are briefly as follows: It applies to all manual workers regardless of income, and to all non-manual workers with an income of $1250 or less. There are three groups involved in the administration of the act; first, the British Ministry of Health; secondly, the approved societies which are the outgrowths of trade unions and friendly societies, or of employers' associations. They are not allowed to profit by the act, and are subject to member control. These two conditions are fulfilled technically, but actually the member control in many societies is no more effective than that of the stockholders of the American Telephone and Telegraph Company. Thirdly, there are the Local Insurance Committees which administer the medical side of the act, have physicians as members, and were adopted because the British Medical Association refused to deal directly with the societies.

Each employer buys stamps at the Post Office equivalent to nine pence a week per worker. Half of this nine pence is deducted from the week's wages. The money from the sale of these stamps is distributed through the Ministry of Health to the societies. Cash benefits of fifteen shillings a week ($3.60) commence on the fourth day, continue for twenty-six weeks, and fifty per cent of this amount may then be paid up to the age of sixty-five years if disablement continues. Workers join any society they wish if acceptable to the society. They choose freely from a list of physicians who have expressed their willingness to serve under the act, which list is posted at the Post Office. They may change to another physician immediately by mutual agreement of the patient and the two physicians involved, otherwise by a two weeks' notice. The society decides when the insured returns to work, with the advice of the physician attending. A wage earner's family is not covered by the insurance and the service is only that which is considered within the scope of general practice.

If surpluses develop, the society may then provide additional benefits such as surgical appliances, dental care, hospital costs, or eye examinations. By far the larger number show surpluses, demonstrating the actuarial soundness. Administration costs are about eleven per cent.

The physician may refuse to accept a patient who chooses his name from the panel. If a patient is not desired by any of the doctors on the panel, he is allocated by rotation by authority of the insurance committee. Eighty per cent of the general practitioners are engaged in insurance work. Twenty-five hundred persons is the maximum allowed to any physician. In 1932 the average number per physician was 930. The physician received nine shillings less ten per cent per year (about $2.00 per patient); therefore, the average yield per physician was about $2000. The physician had his own private practice besides, usually including the members of the family of the wage earner. The secretary of the British Medical Association stated that in his opinion the act had tended to raise rather than to lower the scale of prices outside of the insurance system. He said that he knew of no individual physician who had his income lessened as a result of insurance, and that the average had been raised. Extra benefits are paid on maternity cases.

The attitude of the British Medical Association was at first absolutely opposed. Threats by Lloyd George induced grudging coöperation; now the British Medical Society wishes the system extended to

the families of the insured and to include also services of a specialist, and its influence is such that no important change could be adopted without its approval. Even if insurance medicine is poor theoretically by the best standards, it is better than the service given before the enactment.

Drugs are handled separately. Physicians do no dispensing except in emergencies. Some conflicts have arisen regarding too much prescribing and the British Medical Association is endeavoring to reduce abuses. Regarding secrecy in relation to diagnosis, the physician, if he does not wish to record the diagnosis, may report it confidentially to the Regional Medical Officer. A Regional Medical Officer is a high type of civil service man who settles disputes.

There is relatively little complaint of "red tape" in contrast to the bad situation in Germany. When the insured becomes unemployed, he is automatically carried on and does not have to pay any arrears. The physician may use his discretion as to response to unnecessary night calls, or other unreasonable demands. Decision in the matter of complaints is handled by the local medical committee largely controlled by the physicians, subject of course to review by the Minister of Health. Physicians have been charged with referring too many patients to hospital out-patient departments. About ninety per cent of all hospital cases in Britain were free until recently. Voluntary hospital schemes are beginning to appear. The great majority of the hospital beds in Britain are government owned. The state provides specialists for consultation in tuberculosis, venereal diseases, and certain other diseases.

Problems—The certification by the physician that the insured is eligible to cash benefits is abused by some physicians who are unwilling to incur the displeasure of the patient, lest he change his panel doctor. Dr. Brown expressed his opinion that cash benefits were desirable in order to allow the family to carry on. He also expressed his opinion that as a matter of practical politics, if insurance legislation is adopted, cash benefits must go along with it, because if an insured person were offered the choice of the $5.00 hard cash or $10.00 worth of medical service he would choose the hard cash. Subconscious malingering occurs in about the same degree as is evident in the operation of our Workmen's Compensation Act. There is an increase in the amount of recorded illness probably due in part to the introduction of available medical care for those who previously were unable to have it, in part also to the abuse by the insured workman of his privileges. The great number of approved societies probably increase the cost of operation, and it would be hoped that this evil would be done away with if and when legislation is adopted here.

The political lobby of the societies tended to be used against the interest of organized medicine. France uses payment by unit of service, and it is reported that there is so much trouble with its operation that the medical associations are leaning toward a change to "capitation". This method (payment per insured worker per annum) is antagonistic to American ideas, but it is approved by the British Medical Association as the method of choice.

If insurance is enacted in this country one of the questions would be from whom contributions are to be taken—from the employer, the employee, or both. In Dr. Brown's opinion it would come out of wages anyway, except for the part that would be covered by taxation. Dr. Brown stressed the difficulties in the German situation in contrast to the British in the manner of lay control without adequate consideration of the profession, and the disputes settled by the societies in contrast to the settlement in England by the committee whose membership is largely controlled by the local medical societies. Dr. Brown expressed it as his opinion that the civil service in this country would not produce regional medical officers of as high a type as the British, and he stressed the fact that the British have a greater flair for this type of social experiment than we in this country. He reminded us again that the insurance did not affect the indigent, the hospitals, private practice, or Workmen's Compensation cases.

Dr. Brown impressed his hearers by his evidence of adequate first-hand information, with open-mindedness, and in his discussion, he bore out his introductory statements to the effect that he did not represent any foundation, nor was he committed to any particular plan of action.

E. S. BAGNALL, M.D., *Secretary.*

WILLIAM HARVEY SOCIETY

A meeting of the William Harvey Society was held on January 11, 1935, in the auditorium of the Beth Israel Hospital. Dr. Charles F. McKhann of the Boston Children's Hospital spoke on "Immune Substances in Placental Extract."

After a brief introduction by Dr. Place, Dr. McKhann began his lecture by discussing the immunities and susceptibilities of new-born infants to certain diseases. Practically all infants are immune to scarlet fever for eight months after birth, to diphtheria for six months, measles five months, anterior poliomyelitis six months, rubella six months, chicken pox two months, and mumps two months. The immunity to chicken pox is not so well established as to other conditions mentioned above, and the young infant may develop measles if the mother has never had the disease. The infant is hypersusceptible to pertussis and colon bacillus infection as well as to pyogenic infections of all kinds.

There are three possible sources for this early immunity: first, the placental transmission which may be active, if it transmits the antigen, or passive, if it transmits antibodies generated by the mother's body; secondly, mammary transmission through either the colostrum or the milk or both; and thirdly, tissue immunity in embryonic and rapidly growing tissue. The antigenic transmission through the placenta is very hard to demonstrate,

but it is certain that antibodies definitely go through the placenta. The importance of colostrum was well demonstrated by Theobald Smith who found that this substance contained not only antibodies but also a protein fraction to which antibodies could be attached. The part played by tissue immunity has not yet been fully established.

Through studies on cord blood, various investigators have found antibodies for diphtheria, scarlet fever, poliomyelitis, and measles to be present. Whereas convalescent serum only gives immunity for weeks, cord blood established a more lasting immunity which generally continues for months. This suggests that there must be storage of the antibodies elsewhere than in the blood plasma. The group at the Children's Hospital has investigated the question of placental storage of antibodies and has found suggestive results.

The method of preparation of the placental extract is to pool a number of placentae (because of the great individual variation) and cut them up finely; then these are extracted with from two to four per cent sodium chloride solution. The use of a hypertonic solution is necessary because of the hemolysis which takes place rapidly in fetal blood. This extract contains fetal blood, placental tissue, and a very small amount of maternal blood, since the euglobulin content is very small (fetal blood contains practically none of this substance). The globulin is then precipitated with ammonium sulphate and put in a collodion package for dialysis and finally the extract is put through a Berkefeld filter. By further purifying methods it is found that practically all of the diphtheria antibodies are found in the pseudoglobulin fraction, while the much smaller euglobulin fraction contains essentially none.

The extract will blanch the rash of scarlet fever, but this power is lost if the extract is not fresh, although this is not true as regards the diphtheritic antitoxic properties. It has been found that the antidiphtheritic and antiscarlet fever properties are almost entirely due to the pseudoglobulin fraction, while the antibodies of the virus diseases, in particular, measles and anterior poliomyelitis, are apparently equally distributed among the fractions, indicating that the antiviral substances are probably more closely attached to the tissues. The crude extract will neutralize the virus of poliomyelitis.

Because of the difficulty of controlling cross infections with measles in hospital wards, much work has been done in the Children's Hospital to establish a reliable means of protecting sick children against this complicating factor. In the past, immune convalescent serum has been used to some extent and it has been found that about three times the dose of serum is needed if the normal adult blood is used as when the blood of a child who has recently recovered from measles is employed. If these serums are used within four days after the exposure to the disease, the child will not come down with it. Such immunity lasts only from four to six weeks. The dose, the potency, the time of injection, the age and size of the patient, and the degree of exposure are all important factors influencing the effectiveness of serum in the control of measles.

In general it may be said that all forms of serum used to protect against measles, if used in adequate amount, completely protect up to the fifth day after exposure; modify from the fifth to the ninth; diminish from the ninth to the thirteenth and have no effect after this date which is about the time of the appearance of the eruption. According to this, massive doses may diminish the effects even up through the period of prodromal symptoms. The modified form of measles has a longer incubation and is milder. By the use of placental extracts in the hospital, secondary cases are minimized, and it is also possible to prevent debilitated and tuberculous children from having the disease provided that the time of exposure is known. Modification is desirable in the general community if by this means a permanent immunity is established, a point not yet fully determined.

Dr. McKhann then showed several slides demonstrating the effects of various fractions of the extract of placental tissue in modifying and preventing measles. The crude unfiltered extract was given to 118 children without any failures, but any attempt to purify this material either by filtering or by fractionating definitely diminishes its strength. Each of the fractions has a potency that is roughly in proportion to the nitrogen content, and the use of these substances has resulted in from five to ten per cent failures. The commercial product put out by Squibb gave three and two-tenths per cent failures in this series. The immunity which is procured in this way lasts only some three weeks.

There have been no cases of infection resulting from the use of the serum, but about one case in four had a local reaction, one in eight a febrile reaction, and only two per cent ran a fever of over one hundred and one degrees. Surprisingly enough the more refined products give the more severe reactions. Standardization of the extract is necessary and the following are some of the important considerations: the method of preparation; the yield per placenta; the separation of the diphtheria and measles potency; the study of the partial parallelism between potency and nitrogen content; and the effect of aging.

HARVARD MEDICAL SOCIETY

A meeting of the Harvard Medical Society was held on the evening of January 11 at the Peter Bent Brigham Hospital. Dr. Fitz opened the meeting by taking the audience back to an evening forty-one years ago when the Boylston Medical Society was holding one of its meetings. At that time a Mr. Joslin of the third year class of the Harvard Medical School had presented a paper on the "Pathology of Diabetes Mellitus" and part of this paper was reproduced over the phonograph.

Dr. Elliott P. Joslin presented a most amusing, interesting, and instructive talk on "Forty Years of Diabetes." He began by recalling that between 1824 and 1898, twenty-seven per cent of all cases entering the hospital with diabetes died, and from 1898 to 1914 this was increased to twenty-eight per cent. The tasting of urine by the house officers or even by the patient to see if it was sweet was an established practice until well past 1850 when the various chemical tests came into use. Dr. Peterson was the first to conceive of the idea of putting several test tubes in a container and boiling them all at once, and Dr. Joslin pointed out the importance of this time-saving device and presented its inventor to the audience.

Dr. Joslin presented one of his twenty-nine cases of renal glycosuria, one of his four cases of pentosuria, and one of his two known cases of levulosuria. Twenty out of every one hundred patients showing sugar in the urine on routine examination do not have true diabetes mellitus, although two or less of these twenty will later come down with this disease.

Between the years 1898 and 1914, sixty per cent of all diabetics died in coma; from 1914 to 1922 this fell to forty per cent; in the ten years after the discovery of insulin in 1922 this percentage fell to twenty per cent; and in the last few years only four and eight-tenths per cent of diabetic patients have died in coma. In the early years of the present century Dr. Joslin began to notice the harmful effect of giving soda to coma patients, a practice that had been prevalent up to that time. The use of salt, now so universally administered to coma patients, was also worked out at about the same time. A young girl was shown who had been improving in the hospital after treatment for coma, when she began to vomit, developed a non-protein nitrogen of 126 milligrams per cent, and began to have convulsions. Her blood sugar remained normal, but she was anuric for a total of thirty-five hours. Upon the injection of fifty cubic centimeters of a ten per cent sodium chloride solution, she rapidly regained her normal condition. Since 1917 Dr. Joslin has never given any soda to his coma patients.

The prognosis for children brought into the hospital in diabetic coma is excellent, there having been only one death out of one hundred and nineteen such cases in Dr. Joslin's clinic. However, the mortality of adult coma cases is much higher, being around twenty-two per cent. There is always some cause for a previously regulated diabetic going into coma, the most frequent etiological factors being infection, too little insulin, and a broken diet. After the diagnosis of coma has been made, the patient should be treated by washing out the stomach, giving insulin, injecting normal salt solution beneath the skin or into the vein, and keeping the patient warm. There is no need of giving any glucose.

In a brief discussion of the etiology of diabetes, Dr. Joslin stressed the importance of heredity and stated that in fifty-three per cent of the children who have had the disease over ten years, this factor has been established. This point was cleverly driven home by the separate presentation of identical twins one of whom developed the disease in 1931 and the other in 1933. Among the forty-one pairs of twins that have come to the clinic, both twins have diabetes in seventy-two per cent of the identical type, while only seventeen per cent of the dissimilar twins show the condition in both members.

In order to show what diet can accomplish, one case who developed diabetes in 1905 and another in 1909 were demonstrated and both were healthy. At present there are 400,000 diabetics in the country. Complications are more numerous now and are more important because of the fact that diabetics live so much longer than used to be the case. There have been many different theories as to the most effective diet, but at present from 100 to 200 grams of carbohydrate are given daily. Dr. Joslin presented the patient who was the first case of his to receive insulin. At that time she got only seven grams of carbohydrate a day and had dropped from 150 to 70 pounds.

In severe cases exercise will push up the blood sugar, but insulin combined with the proper amount of exercise will lower the blood sugar much more rapidly than insulin alone. Another patient was presented who says that he keeps himself sugar free by dancing a jig for twenty minutes each day, and he uses no insulin.

Tuberculosis is thirteen times as common in diabetic children as in other children and one per cent of all cases in tuberculosis sanatoria are diabetics. While the death rate of tuberculosis is dropping, that of diabetes is rising and if the rates of increase and decrease in these two conditions continue in the future as they have in the past, there will be more deaths from diabetes in 1939 than there will be from tuberculosis.

Pregnancy was formerly almost always a fatal complication in diabetic patients, but this is no longer true. From a point of view of prevention, heredity must be considered and two diabetics should never marry, nor should a diabetic ever marry into a family with a history of this condition. The cost of the care of the diabetic is tremendous and hospitals should be used chiefly for the education of the patient and for emergency work such as coma, complications, and insulin shock. It is hoped that in the future more use will be made of camps for the training of these patients in the proper care of themselves, since this is a much cheaper method than bringing them into the hospital for a more or less prolonged stay. These patients can escape complications only by careful treatment.

FAULKNER HOSPITAL CLINICAL MEETING

The next meeting will be held at the Faulkner Hospital on Thursday afternoon, February 7, at 5:00 P.M. In addition to the usual clinical pathological

conference on the cases which have come to autopsy during the month, Dr. D. J. Bristol will give a short talk on "Common Obstetrical Practices at the Faulkner Hospital."

All physicians are invited.

WILLIAM HARVEY SOCIETY

The next meeting of the William Harvey Society will be held Friday, February 8, in the Auditorium of the Beth Israel Hospital, Boston, at 8:00 P.M.

PROGRAM

Speaker: Dr. Arthur M. Fishberg, New York City.
Subject: "Peripheral Vascular Collapse."
Chairman: Dr. Hyman Morrison, Professor of Clinical Medicine, Tufts College Medical School.

Dr. Fishberg: Columbia University Medical College, 1921. Associate in Medicine, Mount Sinai Hospital and Associate Visiting Physician, Beth Israel Hospital, New York.

HARVARD MEDICAL SOCIETY

The next meeting of the Harvard Medical Society will be held in the Peter Bent Brigham Hospital Amphitheatre (Van Dyke Street entrance) Tuesday evening, February 12, at 8:15 P.M.

PROGRAM

Presentation of Cases.

The Significance of Changes in Plasma Volume as Determined by the Dye Method, by Dr. Magnus I. Gregersen.

The Toxicity of Two Dyes Used in Plasma Volume Determinations, by Dr. John G. Gibson, II.

MARSHALL N. FULTON, M.D., *Secretary.*

BRITISH CONFERENCE

The twenty-first annual conference of the British National Association for the Prevention of Tuberculosis will be held at Southport, England, on June 27 to 29 inclusive. The subject for discussion will be "The Responsibility of the Nation Towards the Child in Respect of Tuberculosis." Persons desiring further information should write to Miss F. Stickland, secretary of the Association at Tavistock House North, Tavistock Square, London, W. C. I., England.

SEVENTH INTERNATIONAL CONGRESS ON INDUSTRIAL ACCIDENTS AND DISEASES

The Seventh International Congress on Industrial Accidents and Diseases will be held at Brussels, Belgium, from July 22 to 27, 1935. The American Committee of the Congress is under the chairmanship of Dr. Fred H. Albee, New York, for the Section on Accidents and that of Dr. Emery R. Hayhurst, Columbus, Ohio, for Industrial Diseases.

The American delegation to the Congress will sail from New York on August 8 and visit London, Amsterdam, The Hague and Paris and, optionally, Budapest. Physicians interested in the Congress or in the medical tour in conjunction with it may address the Secretary, Dr. Richard Kovacs, 1100 Park Avenue, New York City.

WORCESTER DISTRICT MEDICAL SOCIETY

The next meeting of the Worcester District Medical Society will be held on Wednesday evening, February 13, at the Worcester State Hospital. Dinner will be served at 6:30 and the business session and scientific program will begin at 7:30.

PROGRAM

The Endocrinology of To-day. (Illustrated.) By Dr. R. G. Hoskins. Dr. Hoskins is Editor of the *Journal of Endocrinology*, Director of the Neuro-Endocrine Foundation and Director of Research at the Worcester State Hospital. He also holds the position of Research Assistant at the Harvard Medical School.

ERWIN C. MILLER, M.D., *Secretary.*

SOCIETY MEETINGS, CONGRESSES AND CONFERENCES

CALENDAR OF BOSTON DISTRICT FOR THE WEEK BEGINNING MONDAY, FEBRUARY 4, 1935

Monday, February 4—
February 4-9. Institute for Tuberculosis Workers. Hotel Statler. See page 220.
†4 P.M. Clinic — Medical, Surgical and Orthopedic Services, Children's Hospital and Infants' Hospital (Amphitheatre).

Tuesday, February 5—
1:30 P.M. Radio Program. WEEI. "The Trends in Sewage Disposal."
†2:30-4 P.M. Ward visit, Massachusetts Eye and Ear Infirmary.
†4-5 P.M. Seminar, Pediatric Laboratory, Massachusetts General Hospital.
4:30 P.M. Radio Program. WBZ. "Appendicitis."

Thursday, February 7—
*12 M. Clinico-Pathological Conference. Massachusetts General Hospital.
†12 M. Clinico-Pathological Conference. Children's Hospital.
*3:30 P.M. Medical Clinic. Dr. Christian. Peter Bent Brigham Hospital.
†4:30 P.M. Surgical Clinic. Peter Bent Brigham Hospital.
*5 P.M. Faulkner Hospital Clinical Meeting.

Friday, February 8—
5 P.M. Radio Program. WEEI. "Rheumatic Fever." "Pneumonia."
8 P.M. William Harvey Society, Beth Israel Hospital.

Saturday, February 9—
*10-12. Medical Staff Rounds. Dr. Christian. Peter Bent Brigham Hospital.

Sunday, February 10—
4 P.M. Harvard University. (Medical School, Building D, Longwood Avenue, Boston.) Free lecture. "Minerals in Our Bodies and Our Foods." Dr. H. C. Trimble.

*Open to the medical profession.
†Open to Fellows of the Massachusetts Medical Society.

February 1—Boston City Hospital Surgical Clinic will be held, 12-1, in the Cheever Amphitheatre.
February 4-9—Institute for Tuberculosis Workers. See page 220.
February 7—Clinic at the Peter Bent Brigham Hospital. See page 220.
February 7—Faulkner Hospital Clinical Meeting. See page 226.
February 8—William Harvey Society. See notice elsewhere on this page.
February 12—Harvard Medical Society. See notice elsewhere on this page.

MASSACHUSETTS DIETETIC ASSOCIATION

February 12—Tuesday, 8 P.M. "Diabetic Children," Dr. Priscilla White, Joslin Diabetic Unit.

March 12—Tuesday, 8 P.M. "The Effect of Diet on Anemia," Dr. Lewis Diamond, Instructor in Medicine, Harvard University Medical School, Associate Physician, Children's Hospital.

March 19—Tuesday, 2 P.M. Field Trip: Visit Storehouse, First National Stores.

April 9—Tuesday, 8 P.M. "Small Hospital Problems," Miss Margaret Copeland, Superintendent, Free Hospital for Women.

February 13—New England Dermatological Society will meet at the Massachusetts General Hospital at 3 P.M.

February 20—Brookfield Medical Club will meet at the Hampshire House, Ware, Mass.

March-May—International Medical Postgraduate Courses in Berlin. See page 220.

March 11, 12, 13—Surgeons to meet in Jacksonville, Florida (Southeastern Surgical Congress). See page 83, issue of January 10.

April 29 - May 3, 1935—The American College of Physicians will meet at Philadelphia. For information address Mr. E. R. Loveland, Executive Secretary, 133-135 South 36th Street, Philadelphia, Pa.

June, 1935—Medical Library Association will meet in Rochester, N. Y. For details address the Secretary: Miss Frances N. A. Whitman, Librarian, Harvard University Schools of Medicine and Public Health, Boston, Mass.

June 27-29 inc.—British National Association for the Prevention of Tuberculosis. See page 227.

July 22-27—Seventh International Congress on Industrial Accidents and Diseases. See page 227.

DISTRICT MEDICAL SOCIETIES

ESSEX NORTH DISTRICT MEDICAL SOCIETY

The Annual Meeting will be held in May. Time, place and subject to be announced.

E. S. BAGNALL, M.D., Secretary.

FRANKLIN DISTRICT MEDICAL SOCIETY

Meetings will be held on the second Tuesday of March and May at the Weldon Hotel, Greenfield, Mass.

CHARLES MOLINE, M.D., Secretary.

Sunderland.

MIDDLESEX EAST DISTRICT MEDICAL SOCIETY

March 13, 1935—Wakefield.

May 8, 1935—Winchester.

K. L. MACLACHLAN, M.D., Secretary.

1 Bellevue Street, Melrose.

NORFOLK DISTRICT MEDICAL SOCIETY

February 26, 1935—Hotel Kenmore, 8 P.M. The Use of Amniotic Fluid in Abdominal Surgery. Dr. Herbert L. Johnson.

March 26, 1935—Fernald School for Feeble-Minded, Waverley. Details to be announced.

May, 1935—Annual Meeting. Date, time and place to be announced.

PLYMOUTH DISTRICT MEDICAL SOCIETY

March—Plymouth County Hospital.

April—Lakeville Sanatorium.

SUFFOLK DISTRICT MEDICAL SOCIETY

March 27, 1935—Clinical Meeting at the Boston Lying-In Hospital.

April 24, 1935—Clinical Meeting at the Children's Hospital.

The medical profession is cordially invited to attend all of these meetings.

ROBERT L. DeNORMANDIE, M.D., President.
GEORGE P. REYNOLDS, M.D., Secretary.

WORCESTER DISTRICT MEDICAL SOCIETY

February 13, 1935—See page 227.

March 13, 1935—Wednesday evening. The Memorial Hospital, Worcester, Mass. 6:30 P.M.: Buffet supper. 7:30 P.M.: Scientific program and business session. Announcement of subjects and speakers to be presented at a later date. Buffet supper complimentary by the Hospital.

April 10, 1935—Wednesday evening. Worcester Hahnemann Hospital, Worcester, Mass. 6:30 P.M.: Dinner. 7:30 P.M.: Scientific program and business session. Announcement of subjects and speakers to be presented at a later date. Dinner complimentary by the Hospital.

May 8, 1935—Wednesday afternoon and evening. Annual Meeting of the Worcester District Medical Society. The time and place of this meeting will be announced later.

ERWIN C. MILLER, M.D., Secretary.

27 Elm Street, Worcester.

BOOK REVIEW

Wish Hunting in the Unconscious. An Analysis of Psychoanalysis. By Milton Harrington. 189 pp. New York: The Macmillan Company. $2.50.

Here is a book that those who are critical and incredulous of the Freudian philosophy will welcome, and read with profit and satisfaction.

Briefly, the theories of psychoanalysis are based on so-called facts developed from the technique of psychoanalysis which, in turn, is based on so-called evidence derived from free association and dreams. This evidence admittedly is often falsified, or made up by the patient, and is untrustworthy. But the untrustworthiness of this evidence is not allowed to invalidate the theories based thereon. No non-convert to psychoanalysis is held to be competent to criticize the theories. Only if you believe it, have you a right to state your disbelief in it!

The author writes: "Psychoanalysis has given us a new technique, but it is one by which each individual worker can find practically anything that suits him. It is, therefore, without scientific value. . . . One of the charms of psychoanalysis lies in the fact that by means of it one can explain practically everything. . . . Psychoanalysis is, therefore, among other things a great face-saving device. It saves all those who embrace it from the humiliation and embarrassment of having to admit ignorance. . . . Psychoanalysis gives us no mental hygiene, no treatment for the psychoses. All it gives us is a new treatment for the neuroses, which is apparently just a new form of suggestion therapy: and this new treatment, although it is extremely expensive and time-consuming, has not been shown to be any more effective than other forms of suggestion therapy which have preceded it. . . . It will not seem strange that so little technical knowledge is necessary for the successful practice of psychoanalysis, if we bear in mind that psychoanalytic treatment is a form of suggestion therapy and that, therefore, it really makes little difference what explanation the analyst offers of his patient's symptoms provided only that he is able to induce his patient to accept his explanation as the right one."

As an alternative to psychoanalysis the author writes—"A kind of psychology which would explain abnormal behavior as due to faulty action of the mechanism by which all behavior, both normal and abnormal is produced, we may call Mechanistic Psychology, while that of the psychoanalyst in which the symptoms of mental and nervous disease are explained by attributing them to desires or motives we may call Motivistic Psychology. . . ."

And near the end of the book appears this excellent summing of the therapeutic field in psychiatry: "The treatment of any ill is a matter of dealing with the causes which produce it, and since according to our mechanistic theory, our mental ills are due to bad heredity, faulty education, somatic disease, and difficult or trying situations, the preservation of mental health is a matter of dealing with these four factors. It is a matter (1) of breeding a race of potentially healthy and efficient people, (2) of giving these people the kind of education or training which will make the most of their potentialities, (3) of preserving their bodily health, and (4) of giving them the kind of environment which is best suited to their requirements."